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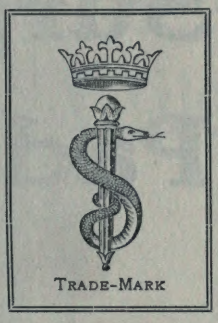

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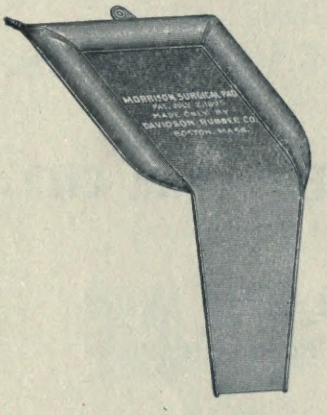

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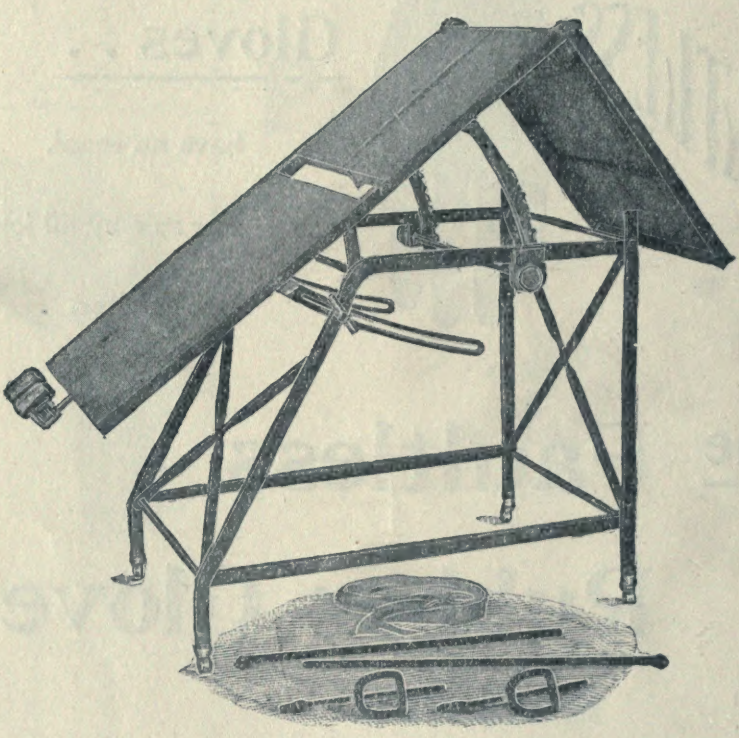

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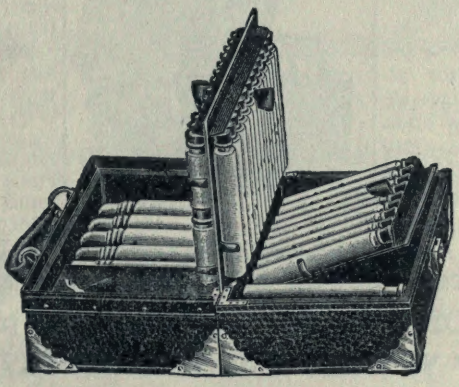

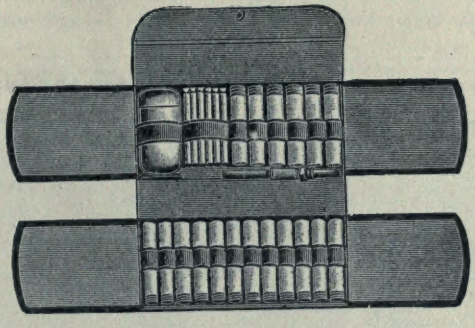

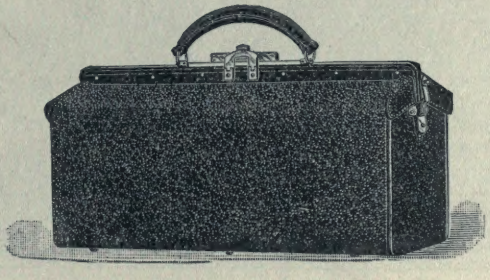

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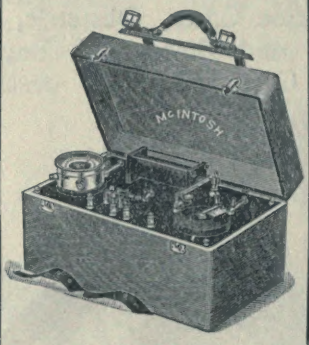

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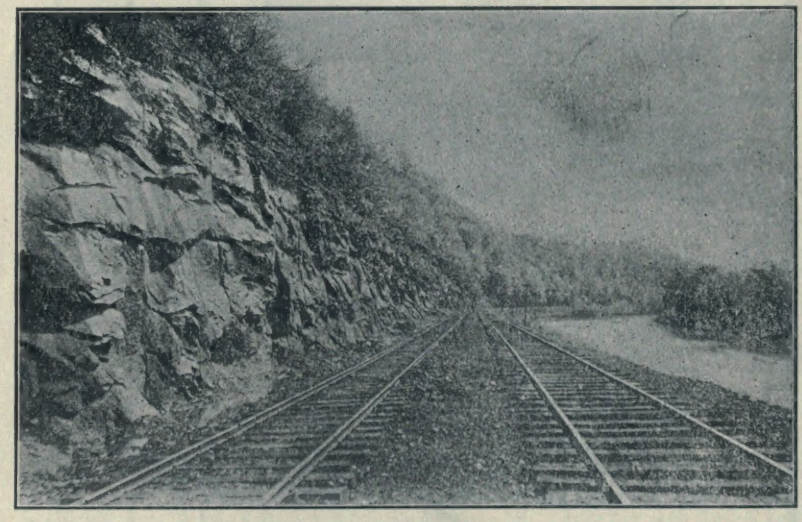

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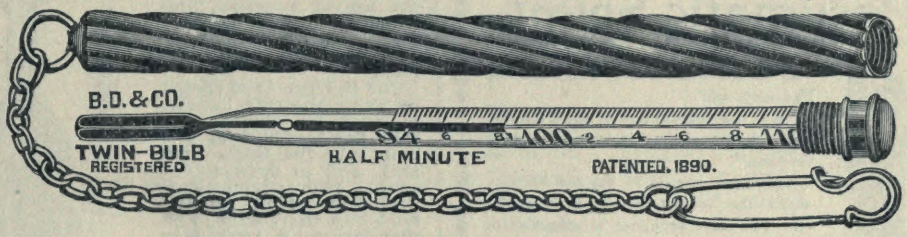

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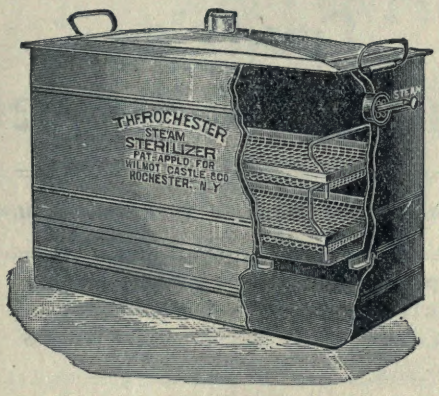

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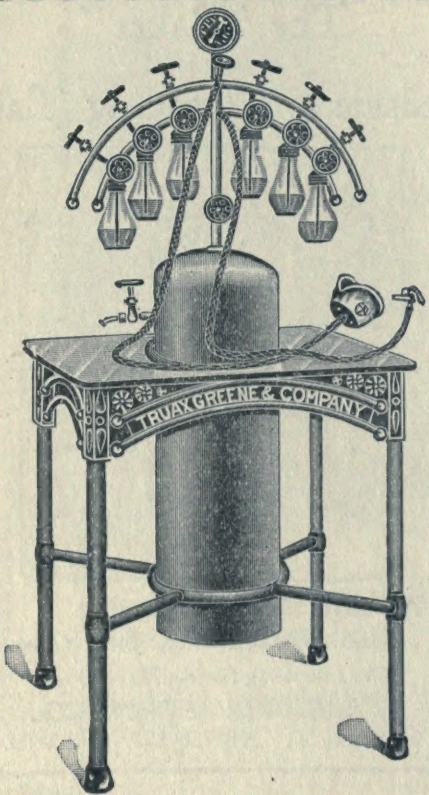

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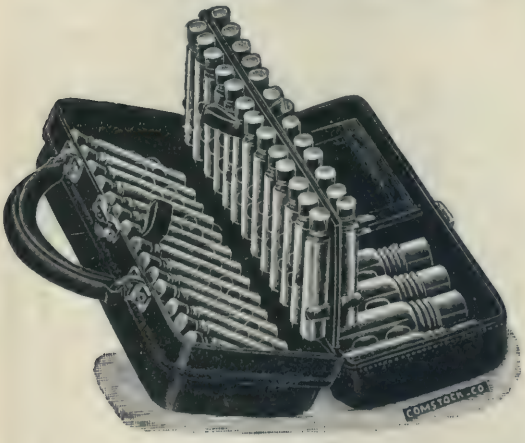

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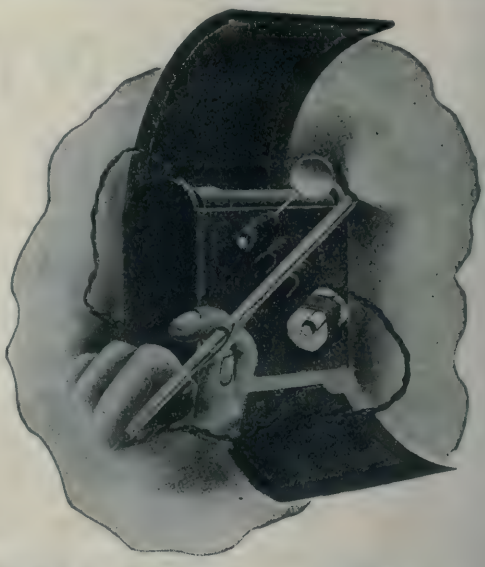

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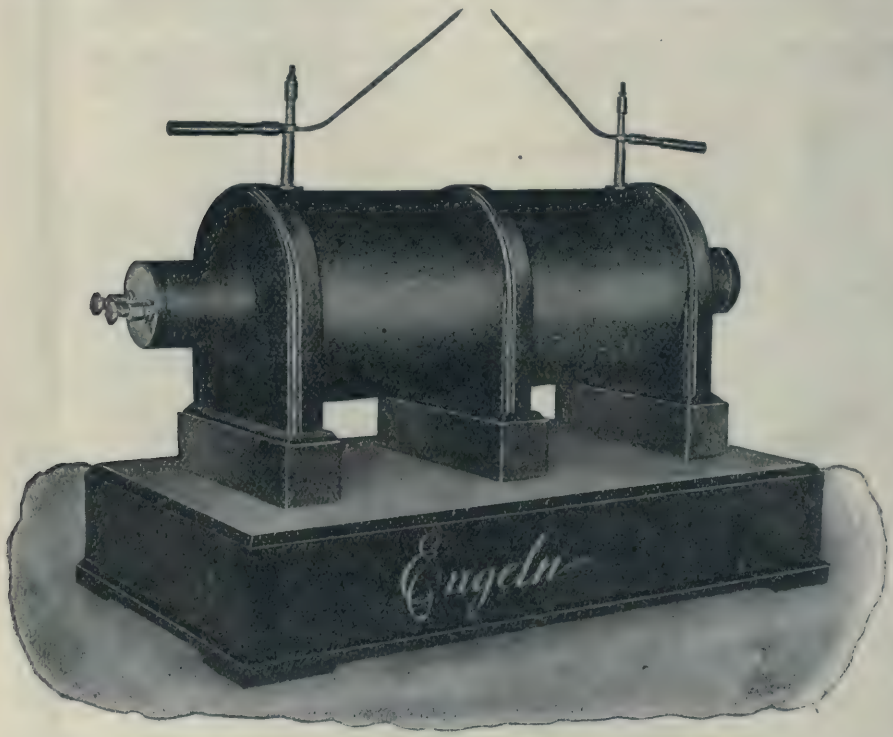

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SURGICAL CLINIC AT HARPER HOSPITAL

By H. O. WALKER, M. D., Detroit, Mich.

DECEMBER 6, 1902

ABDOMINAL HYSTERECTOMY

Gentlemen:

I have today, a series of interesting cases that represent some common forms of abdominal surgery, the first of which is a uterine fibroma, not very large in size, but of sufficient annoyance to demand, in my opinion, surgical interference.

This woman, Mrs. N., aged 46 years, of very quiet habits, has never borne children, nor has she had a miscarriage. I have said fibroma, yet it is possible a malignancy may exist. A very distinguished abdominal surgeon of another city pronounced it either one or both, that is, he was in doubt as to the character of the growth. Non-fecundating women, however, are more prone to fibroid tumors of the uterus, while malignancy is more common in women who have given birth to a number of children. This patient has had several menorrhagias, first slight in May of 1902, worse in June, with pain in back. In July it was very severe, lasting three days, from which she fainted. During the months of August and September the hemorrhages were about the same, while during October she flowed the entire month, and a part of November. The last severe hemorrhage was on November 17. Her general appearance is that of having lost flesh, anemic, with a yellowish tinge. She has a constipated habit of ten years' duration, with bladder and general nervous irritabilty. Inspection shows lower abdominal prominence, and by bimanual manipulation there is no difficulty in mapping out a movable spherical tumor, comfortably filling the pelvic cavity. Having made our diagnosis, the question is, what shall we do and how shall we do it?

It is my judgment that we do a hysterectomy and through the abdomen. Although the tumor is not large, it would be a difficult procedure to remove it through the vagina, and the hæmostasis would have to be done by forceps and not by ligature, and I do not think a vaginal hysterectomy, when forceps have to be clamped on the uterine and ovarian arteries, should be done. In the first place the forceps are instruments of torture, and in the second place the sloughing stumps are so liable to sepsis, when if ligatured and the pelvic floor closed, these conditions do not exist. A small vagina, as in this case, precludes a satisfactory vaginal hysterctomy. We will therefore proceed to do an abdominal hysterectomy. Our preliminary work of emptying the bowels with two ounces of castor oil, hot bath, abdominal shave and vaginal antiseptic douche, together with our present ten minutes' wash with hot water and soap, alcohol and final bichloride solution immersion, has been rigidly performed, we are ready to make the median abdominal incision through the integument, fat, fasciae and linea alba, when the peritoneum is caught by two forceps, between which it is carefully cut so as not to injure either the intestine or bladder. Although the bladder has been emptied, yet I have seen it extend so high up, as to have been mistaken for a thick peritoneum and unwittingly cut, as well as the intestine, when done carelessly. The incision extends up a little more than half way up to the umbilicus from the symphysis. In passing my hand into the abdomen to ascertain if adhesions exist, I find none, but do feel a fairly good sized hydrosalpinx on the right side.

The uterus is now drawn through the addominal opening by means of a vulsellum forceps, when by a long-bladed forceps the right ovarian and uterine arteries are clamped well outside the tube and ovary, inclining the point of the forceps to the cervix; another forceps clamps them in the same manner close along side of the uterus, leaving a triangular space between them. The triangular space is then cut to its apex, and the same method is performed on the other side.

This gives complete hamostasis for the time. The next step is a semi-circular division (convexity upwards) of the peritoneum in front of the uterus, and the same posteriorly, the cuts meeting on each side, when it is peeled down nearly to the cervix, catching all bleeding points. You will observe that the patient has been put in the Trendelenberg position and the whole field of operation cofferdammed with soft towels. The next step is the securing, with ligatures, of the arteries which are readily seen and tied and the two clamps removed, leaving those on each side of the uterus. In tying the uterine arteries watch out for the ureters in order not to include them in the ligature, as they are very close together at this point. I had provided, however, for this contingency when I put on the forceps. In cutting off the uterus I have made a wedge-shaped incision into the neck, so that when it is sewed up, it can be more accurately approximated. You will notice that as soon as the section was made, to prevent sepsis, we had in readiness swabs of cotton which were dipped in carbolic acid and pushed into the cervix and allowed to remain a minute when a swab of cotton was dipped in alcohol and applied to counteract the effect of the carbolic acid. All bleeding points being secured, the wedge-shaped incision into the cervix is approximated with catgut, and the peritoneal flaps which were stripped off the uterus are caught and approximated accurately by a continuous catgut suture (double No. 1) caught at every third stitch so as to avoid puckering of the line of suture. Removing the abdominal towels it will be observed that we have a perfectly dry peritoneal cavity, and that it is absolutely closed off from infection below, and now we close by layer suturing with double-threaded catgut, not tightly drawn, doing as was done in the peritoneal flaps, closing the integument with a continuous silkworm gut suture. We will now lay open the uterus and pass it round.

You observe that the uterine wall is much thickened and that I have made a section through two good sized tumors, one above the other. Their character is so apparent that it is scarcely necessary to have a microscopical examination to determine them. They are undoubtedly sub-mucous myofibroma.

These might have been romoved by enucleation and in a younger woman I should have made the attempt, as it is our first duty not to destroy the child-bearing function, but in this woman the climacteric period was near at hand, and at the same time the possibility of malignancy had to be borne in mind. While it is true that fibroid tumors atrophy after the menopause, I do not feel any compunctions of conscience in doing what I did in this case. I consider under the circumstances I did what was right, taking no chance of future probabilities.

The case was ideal, from the fact that the growth was not large and there were no adesions to make the technic difficult, and the hemorrhage was almost nil. The tumor was a myo-fibroma (Fig. 1), and the patient made an ideal recovery.

Appendicectomy and Removal of Cyst From Left Broad Ligament.

Case 2.

Miss S. R., aged 42 years, came from a distance to the hospital late last night for the purpose of having an appendicec-

tomy done this morning, and I saw her for the first time only a few minutes ago. Her physician, however, had written me previously in regard to the difficulty, stating that it was chronic or intercurrent appendicitis, and that a similar diagnosis had been made by other physicians. The house physican, whom I requested to get her history, informed me that she laid more stress upon a pain that she had in the left side than upon the right. Abdominal palpation reveals sensitiveness in right iliac fossa at a point that might be called the appendicial ovarian junction. There is also more pain on pressure low down on the left side, yet, owing to rigidity over the area, it is impossible to distinguish anything positively, and as the vagina is small, I have waited to make a bimanual examination when she is under the influence of the anesthetic before ascertaining the pelvic condition.

The diagnosis is therefore still in doubt, although she gives a history going back nearly a year, of one marked attack which might be appendicitis, lasting a week and several other milder ones followed of shorter duration, yet judging from other manifestations there are other pelvic disturbances. As she is now under the influence of the anesthetic (chloroform) I make a vaginal examination and find unmistakable evidence of a tumor, the size of an orange, in the left side, probably in the broad ligament. Now, as there has been evidence of appendiceal

Fig 1. Showing Section of Uterus and Hydrosalpinx.

trouble it will be well to make a median incision and remedy whatever trouble may be necessary. As she is as properly prepared as time would permit, we will proceed with the operation. After opening the abdomen I find, as I predicted, a cyst in the broad ligament which ruptured as I had nearly enucleated it. Turning to the right side I find, as I bring it out through the opening, evidence of recent inflammation of the appendix and that its tip is adherent to the right ovary. There is also evidence of omental adhesions. These adhesions are peeled off and a purse-string suture of catgut introduced about the base of the appendix, then

cut off, treated with carbolic acid and alcohol, stump inverted, suture tied and reinforced with a few stitches. Cleaning out the "pelvic box" with dry gauze, the adbominal wound closed without drainage, as in the previous case.

It will seem that if I had not made a careful examination I would have done simply an operation for the removal of the appendix, and left an equally important condition for some one else to discover and do another operation. In many cases sent for operation upon the pelvic organs, the cause is found in the appendix, and the train of symptoms that is complained of is relieved by removing the appendix. On the other hand, the appendix may be only a part of the trouble, namely, a diseased tube and ovary, complicated with the extension of the trouble to the appendix. In all pelvic operations in the female, see to it that the appendix is healthy and whenever there is any suspicion of involvment, remove it, for as Dr. Price, of Philadelphia, says, "the danger is so slight, the operation so simple, so little time and surgery are required for the safe and clean removal of a very common offender, that I am strongly inclined to urge its removal in all cases, while doing pelvic surgery." There were no unpleasant symptoms at any time during her convalescence, and she left the hospital well on the twenty-second day.

Ferguson's Method for the Radical Cure of Inguinal Hernia.

Case 3.

N., male, laborer, aged 37 years, received a kick from a horse eleven years ago, which was followed by a hernia (indirect inguinal) for which he has worn a truss ever since. It became partially strangulated three weeks ago, while lifting in a moving van, and was reduced with some difficulty. As he lies upon the operating table there is no evidence of a hernia, but it protrudes while standing up or with effort at coughing. The inguinal canal admits the index finger very readily. About five per cent. of all people have hernia, the larger proportion being in men. Over ninety per cent. are indirect, and it is estimated that one-sixth of one per cent. of all deaths are due to hernia. In considering the etiology of inguinal hernia, Marcy of Boston says that "The principal cause is due to a deficient fibrous aponeurosis," while Ferguson says that "The principal predisposing cause is a lack of complete origin of the internal oblique muscle from Poupart's ligament." Other predisposing causes are heredity, long continued and wasting diseases. The exciting causes are usually excessive, sudden exertion or some violence, as was the cause in this case, as he gives no evidence of its being congenital. His general condition is first-class, which makes him a good subject for operation. Dr. Ferguson noticed in doing operations for the relief of indirect inguinal hernia that theer was deficiency in the origin from Poupart's ligament of the internal oblique and transversalis muscles, and owing to this deficiency full opportunity was given for descent of a hernia through the external ring. This condition was proved to be correct by a series of fifty careful dissections on cadavers, made by Dr. R. C. Turck, of Chicago, a report of which is found in the *Journal of the American Medical Association*, April 15, 1899. Reasoning on this basis, he did what he calls a "typical operation' for the restoring of this deficient orgin, which I cannot better describe than by using his own words.

"First Step. Semi-lunar Skin Incision. Begin the incision over Poupart's ligament, one and one-half inches below the anterior superior spinous proces of the ilium; extend inwards and downwards in a semi-lunar manner, circumventing the internal abdominal ring, and terminate it over the conjoined tendon near the pub-

lic bone. Cut carefully backwards with a very sharp knife and expose the vessels and pick them up with forceps before severing them, and thus prevent blood-staining of the tissues. Having passed through the skin, two layers of superficial fascia, fat, between them and superficial epigastric vessels down to the aponeurosis of the external oblique muscle, the will be noticed that it is not necessary to cut the superficial circumflex iliac, nor the superficial pudic vessels. Take a pledget of gauze and with it turn the flap of skin, subjacent fat and fascia downwards and outwards over the thigh. This procedure brings into view the aponeurosis o fthe external oblique muscle, the external abdominal ring, with its pillars and intercolumnar fascia, the hernial sac, if it has descended through the external ring, external surface of Poupart's ligament, the under surface of the flap covered by the deep layer of superficial fascia, and the superficial vessels.

"Second Step. Cut through the external abdominal ring and intercolumnar fascia; separate the longitudinal fibers of the aponeurosis of the external oblique muscle directly over the inguinal canal, far beyond the internal ring, over the surface of the internal abdominal oblique muscle, and up under the skin, to a point nearly opposite the anterior superior spine of the ilium. Delicate tranverse fibers are encountered and severed. Retract the aponeurosis of the external oblique muscle and thereby bring into sight the deep structures, viz., the contents of the inguinal canal, the whole sac, with its adhesions, the spermatic cord, ilio-inguinal nerve, internal abdominal ring usually enlarged, frequently an accumulation of subserous fat, the cremasteric muscle, conjoined tendon, internal oblique muscle, and its deficient origin at Poupart's ligament, transversalis fascia, and the internal surface of Poupart's ligament. I consider the congenital deficient origin of the internal oblique and transversalis muscles one of the most frequent and important causes of oblique inguinal hernia. Inspect these structures carefully, and now determine whether the operation is to be typical or atypical. When the structures are well defined and not too much weakened by pressure atrophy, a typical operation can be proceeded with.

"Third Step. This step deals with the sac and its contents; the cord, cremasteric muscle, and subserous lipomata.

"Sac. The sac is carefully dissected from the cord and internal ring; it is always opened, contents inspected and dealt with, and ligated high up over the inserted finger, cut off and the stump dropped. In atypical operations the sac is usually preserved, as recommended by MacEwen. If the sac be congenital, divide it in two, the distal half to form a tunic for the testicle, and the proximal to be treated as above mentioned.

"Omentum. When omentum is within the sac it is liberally withdrawn, tied en masse, cut off, covered with its own peritoneum, and returned within the abdomen. This decreases the intra-abdominal pressure and lessens the tendency to a return of the heria. At the stage of the operations when the sac is opened, it is frequently found advantageous to place the patient in the Trendelenberg position to prevent protrusion of and injury to the intestines.

"Cord. The cord is not disturbed. I have never been satisfied with the raising and transplanting of the cord. In more cases than have been recorded the testicle has come to grief by this unnecessary procedure. Tearing the cord out of its bed is without an anatomic reason to recommend it, a physiological act to suggest it, an etiologic factor in hernia, congenital or acquired, to indicate it, nor brilliant surgical results to justify its continuance. Leave the cord alone, for it is

the sacred highway along which travel vital elements indispensable to the perpetuity of our race. The veins in the cord are not disturbed, unless a varicocele complicates the hernia. If the cremasteric fibers are unduly thickening the cord, they had better be removed along with adventitious tissue that is not unfrequently present.

"Lipomata. An abnormal quantity of subserous adipose tissue is so often deposited around the sac and cord and along Poupart's ligament that it is an etiologic factor in hernia, and if it is not removed it tends to cause a return of the hernia. A systematic search should be made for fatty aggregations and they should be removed.

"Fourth Step. Restore the structures to their normal positions.

"Transversalis Fascia. It forms the internal ring. In hernia its fibers have become more or less stretched above and around the cord. The ring in consequence is abnormally large and the fascia bulges outwards. To rectify this condition, take up the slack in the fascia and make an accurately fitting ring for the cord by means of a suture, interrupted or continuous. Do not injure the deep epigastric vessels, nor pass the needle too deeply in the direction of the large iliac vessels.

"Internal Abdominal Oblique and Transversalis Muscles. Suture these muscles to the internal aspect of Poupart's ligament, and restore their normal origin. I usually freshen the lower border of the muscles and scarify the surface of Poupart's ligament to insure firm union, and extend the sewing fully two-thirds down Poupart's ligament, which is the normal origin of this muscle in the female. Take care not to split Poupart's ligament by grasping with the needle the same longitudinal fibers each time. It is surprising how easily these two structures come together without the least discernible tension, and it is gratifying to observe how perfectly these powerful muscles cover and protect the internal abdominal ring and inguinal canal.

"Aponeurosis of the External Oblique Muscle. Bring together the separated edges of the aponeurosis of this muscle. Restore the external abdominal ring.

"Flap. In bringing the skin flap into normal position, be sure and coapt all its structures, like to like, especially the deep layer of the superficial fascia.

"Commendable Features, I:

"The different structures in the abdominal wall are placed in their normal relationship. (1) The tying of the sac restores the normal rotundity of the peritoneum. (2) The suturing of the transversalis fascia, forming a new internal ring, at the same time obliterates the hernial infundabliform process. (3) Sewing the internal oblique and transversalis muscles to Poupart's ligament secures a normal origin for them and they then find perfect protection to the internal ring cord and canal. (4) The suturing of the separated fibers of the aponeurosis of the external oblique protects the underlying muscles and cord, while the skin flap covers all.

"II. The four lines of suture are not opposite each other, thus securing an overlapping of the weak parts (lines of repair) by normal tissues.

"III. The semi-lunar incision has great advantages .(1) The hernial area is uncovered as in no other way, thus affording its accurate observation of structural relationship, etiologic factors and pathologic feactors and pathologic conditions. (2) There is less tendency to skin infection, extending to the deeper structures. (3) Should, unhappily, a return of the rupture occur, there is no scar over it and a truss can be better borne.

"IV. Of all the operations that I have performed, it is the simplest and easiest to execute. There is a good scientific rea-

son furnished for every step in the operation."

hesions, caused by the so-called injection treatment that he had received. I have

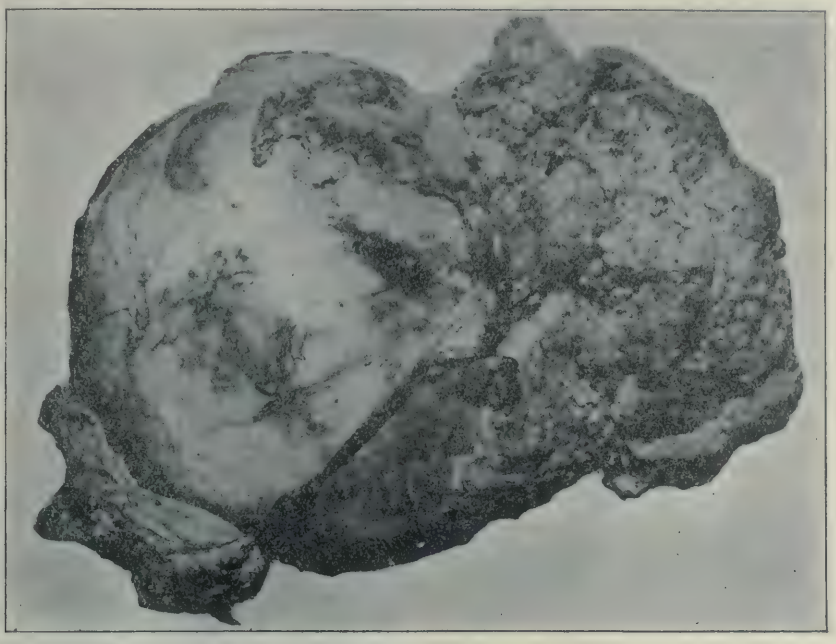

Fig. 2. Right Ovary.

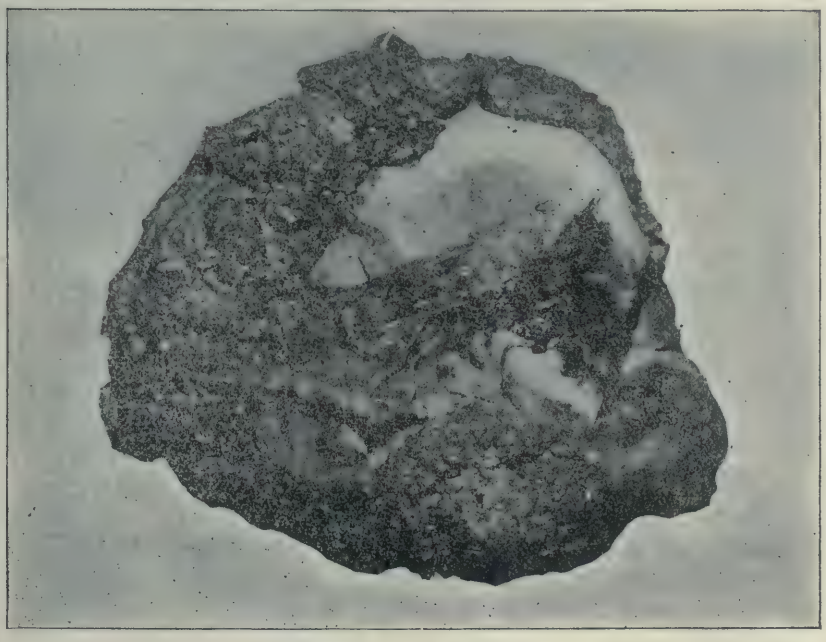

Fig. 3. Left Ovary.

The separation of the sac in this case has been difficult and tedious, owing to the fact that there were many old ad-

done this operation a number of times, and although sufficient time has not elapsed since they were done to say

whether a relapse may not occur, yet up to this time there have been no recurrences. The method commends itself, first as to simplicity and secondly that it is a rational procedure as it leaves the cord in its natural position and restores the abdominal wall. This "typical operation" has been adopted by many surgeons. Patient made an uninterrupted recovery.

Double Ovarian Cysts.

Case 4.

These specimens (Figs. 2 and 3) that I present to you, I removed November 29, 1902, from a woman aged 63 years, with the following history: Mother and two sisters died of pulmonary tuberculosis. She has given birth to five children. Two are living in good health while the others are dead. Her health has been fair up to about ten years ago, whe she began to complain of a heavy feeling in the pelvic region.

A partial uterine prolapse occurred shortly afterward. October 1, she was seen by her physician, Dr. E. R. Campbell, of Flint, who found a complete prolapsus uteri, which could be replaced, but which would immediately come down again. He was also able to diagnose that she had large tumors on either side of the uterus, together with a considerable accumulation of fluid in the abdominal cavity. She voided urine in the knee-chest position. He advised operation, but she declined, saying that she would be unable to stand it, owing to her age and her feeble condition. Dr. Campbell was called to see her again November 18, when he found her suffering from a localized peritonitis, with a temperature of 102.1 and a pulse of 120, with an appreciable increase of the fluid in the abdomen. Her condition gradually improved in the following ten days, so that she could be operated on.

When I saw her November 29, which was about an hour before the operation, I found her emaciated, but cheerful. The prolapsus was about as complete as I had ever seen. Inspection and palpation revealed a well-distended abdomen, with fluid. I had no difficulty in making out two good-sized tumors, undoubtedly ovarian, one in each iliac fossa. As all preparation had been carefully made, I immediately proceeded by making a median section, which extended from above the umbilicus to the symphysis. The fluid in the abdomen was dark in color and, after letting it out, the tumors, which proved to be large ovarian cysts, were removed, together with a considerable portion of the omentum, which adhered to them. The uterus, of course, had been

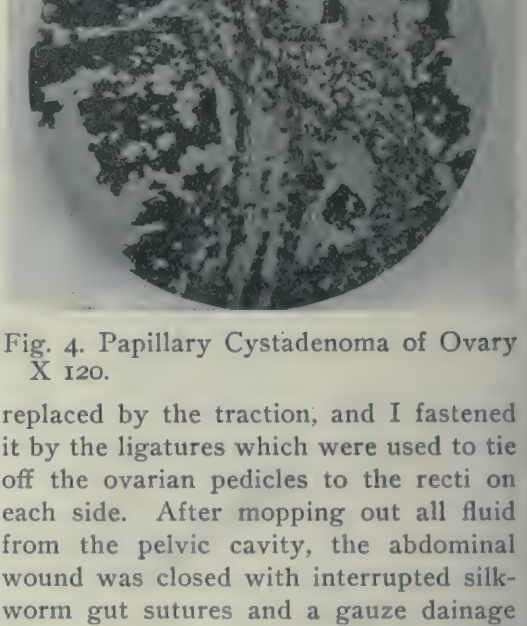

Fig. 4. Papillary Cystadenoma of Ovary X 120.

replaced by the traction, and I fastened it by the ligatures which were used to tie off the ovarian pedicles to the recti on each side. After mopping out all fluid from the pelvic cavity, the abdominal wound was closed with interrupted silkworm gut sutures and a gauze dainage was introduced, simply to draw off the ascitic fluid.

It present this cystic ovarian tumor, not so much because there is anything out of the ordinary in an operative way, but to show a condition that is not common, namely, that of cystadenoma (Fig. 4).

You will observe this papillary growth, covering quite a considerable surface of each cyst, and on opening the cysts it will be seen that there is quite a similar condition growing from the inner wall of the cyst. The omentum was studded likewise. Although not malignant, it is on the borderland of malignancy, with the possibility of recurrence.

A recent letter from Dr. C. states that she has made an ideal recovery.

27 Adams avenue east.

Alcohol in Proprietaries.—A recent issue of *American Medicine* quotes Dr. Baumgartner as giving the following list of the percentages of alcohol contained in "patent" medicines:

Greene's Nervura	17.2
Hood's Sarsaparilla	18.8
Schenck's Seaweed Tonic	19.5
Brown's Iron Bitters	19.7
Kaufman's Sulfur Bitters	20.5
Paine's Celery Compound	21.0
Burdock Blood Bitters	25.2
Ayer's Sarsaparilla	26.2
Warner's Safe Tonic Bitters	35.7
Parker's Tonic	41.6
Hostetter's Stomach Bitters	44.3

Magnesium Dioxide in Anaemia and Chlorosis.—A recent discovery by Dr. Frederich Elias, of Berlin, is magnesium dioxide ($Mg\ O^2$), which, the discoverer claims, possesses the property of giving off large quantities of diffusible oxygen. The fact that oxygen is found so useful by the profession because of its important role in the support of the system, entitles the discovery of Dr. Elias to a trial at the hands of physicians. The discoverer has named his new product biogen, and the preparation is used successfully in those forms of disease characterized by lack of oxygen, by alteration of the blood components. For this reason it is used with particular success in diseases like anæmia and chlorosis.

UREMIA: A RESUME OF THEORIES AND RESEARCH.*

BY HOMER E. SAFFORD, M. D.,
Detroit, Mich.

Much has been written and many ideas held of the essential features of the uremic process, but it is only the more self-assured among the investigators who have thus far been willing to make positive assertions on the main point at issue, viz., what may we conclude are the causes of uremia in the ordinary acceptance of the word? Some have gone a long way around to end with the statement that this or that poison or process was not the cause, while this or that might be; and then the next writer has overturned the whole hypothesis.

Putting aside for the moment the question of ultimate cause, we may properly ask the investigators, "What is uremia?" In reply we should find an agreement that it is a train of symptoms mainly nervous in character, but the immediate action upon the nervous structures is a very unsettled question in the minds of those best qualified to express an opinion. Traube, for instance, saw in the process simply an œdema and an anemia. The œdema was itself induced by a failure of the kidney to excrete water, leading thus to a thinning of the blood. This, by increasing blood-pressure, threw extra work upon the heart and so came the exudation into the tissues. The pressure of this exudation upon the vascular channels cut off nutrition and thus anemia became the natural result of a process up to this point a purely mechanical one, following upon the affection of the kidney. It is practically needless to discuss this conception except to dismiss it; for the demonstration is easy that neither the œdema nor the nephritis nor the high tension nor the low specific gravity of the blood is, any one of them, an absolute essential of the uremic state. A more ac-

*Read before the Pathological Club, December 16th, 1902.

ceptable modification of the explanation by œdema is that of the pressure of fluid upon the centres along the cerebro-spinal axis, induced by, or at least accompanied by, a more important element, the toxemia. Here, however, we are again at a point of division, for almost every constituent of the urine and the blood has, by increase or decrease, been held to present the essentially disturbed function. In fact we may, almost without hesitation, say that the battle royal of the whole controversy has been for sixty years and is still waged over the relation of the substance urea to the toxemia presented. A large majority of investigators would perhaps admit at once the "retained urinary products" as the direct cause, or at least the manifest starting-point, of uremia, since this would include many of those both for and against urea in that connection; but another bone of contention arises in the word, *retained*, some of the latest experimentation being directed to the proof that not so much the mere retention as an enormously increased elaboration of poisons comes into play as an essential feature; in other words, the process is, according to this idea, to be considered primarily a disorder of metabolism. Just here we find those who, accepting the theory of disturbed metabolism, attempt to explain it further by the hypothetical disturbance of a hypothetical internal renal secretion, as suggested by Brown-Sequard. Again we find the claim that the metabolic product causing the symptoms of uremia is an albuminous body circulating in the blood of those with uremia, previously unrecognized. Finally it should be mentioned that von Jaksch and Von Limbeck believe that the process starts in an alteration of the alkalinity of the blood.

This glance over the field gives us at the start an idea of how far we are from being able to fall back upon any "consensus of the competent"; and perhaps the best service I can render will be to run over, as briefly as may be, the evidence in favor of some of the more plausible explanations and bring together what we may feel some assurance of having demonstrated as fact, while pointing out the trend of the less certain but useful speculative thought. Much is written which the verdict of scientific criticism will not value greatly, and some efforts at the solution of the problem are little more than amusing. As an example of the latter class, I would refer to an article in the *Medical Record* of September 1st, 1900, entitled "The Discovery of Ureine, the True Cause of Uremia." This article read in connection with its scientific criticism by Dr. Weatherson in the *Journal of the American Medical Association* for 1901, gives one a comforting assurance that truth in scientific investigation will prevail. We can not all do the necessary experimentation nor observe the necessary abundance of clinical cases that will, I trust, in time settle this difficult problem, but we may well acquaint ourselves with the material presented and the criticisms passed upon it.

Among the earliest efforts to account for the symptoms of uremia on the ground of a toxemia is that quoted by Bright in 1840 as the work of Bostock. Statements were made about the same time by Christison and others to the effect that urea was specifically accountable; its presence in the blood in increased amounts had been determined, and something had been done to observe its effect upon animals as early as 1822, but nothing in these early experiments had been done to prevent elimination. About 1865 Frerichs went over the subject and denied the possibility of urea being the cause of uremia because, he said, urea did not induce in animals the symptoms of uremia as some had claimed. He advanced the theory that ammonium carbonate was the active cause, but this idea

was abandoned when others attempted its confirmation.

Owen Rees showed that anuria and a large urea-content in the blood of a patient had failed to induce the symptoms of uremia. Oppler held that it was unlikely that urea or any other urinary constituent should of itself act as a blood poison. He maintained that, through some interference with the function of excretion, the metabolism of the tissues all through the body was altered and their nutrition so affected as to cause the symptoms. This view is elaborated in its main contention by Bradford in the Goulstonian Lectures for 1898. To the details of this report, I shall beg leave to refer later at some length. I wish first however, to refer to the work of some others of the recent investigators, notably that of Hughes and Carter, published as the Boylston Prrize Essay for 1893 in the American Journal of Medical Sciences for the following year, and also the essay of Herter as one of the contributions embraced in the Welch Festschrift at Johns Hopkins University in 1900. Of others I will make but passing mention.

Hughes and Carter, working at the University of Pennsylvania, started out to demonstrate the effect of the injection of blood-serum from uremic and other patients into animals and to compare with the effects obtained that following the similar injection of a blood-serum from a dog in which the renal arteries had been ligated. Blood-serum from a uremic patient was found to be pathogenic to dogs and fatal if in considerable doses. The same was observed in the use of the ascitic fluid during the uremic attack, but the fact is also interesting that, after the attack of uremia has passed, the ascitic fluid does not induce uremic symptoms. In all these experiments, vomiting and purging were regularly observed, and often coma and occasionally convulsions were seen. In the cases in which, in dogs, the renal arteries were tied the symptoms reported were almost identical with those above described; convulsions, however, appeared but once. With the blood from such dogs, the serum induced symptoms much the same, though less pronounced. The serum from both the uremic patients and the dogs operated upon was subjected to the action of heat. Apparently the active principle was rendered inert by a temperature of 55.-58. C., continued from 5 to 10 minutes. When placed in a dialyzer with distilled water, it was found that the water passing through the dialyzing membrane did not contain the active principle to any considerable degree, although the remaining fluid within the dialyzer remained distinctly pathogenic.

In concluding their reports, Hughes and Carter ask, "What then is the nature of this uremia-producing poison? That we have been dealing with one poison, present equally in uremic human blood, in dropsical effusions in uremia, and in dogs' blood in experimental uremia, is made evident by the perfect similarity of its action. That this poison cannot be one of the ordinarily recognized constituents of the urine, as has been hitherto believed, nor the sum total of all these urinary constituents is proven by the fact, which we have demonstrated, that the injection of these constituents or even of urine itself will not produce uremia. While such injections, if the amount used be inordinately large, will produce certain symptoms, yet these symptoms are not comparable in degree or kind with those produced by the injection of uremic serum, and they do not constitute the condition which we recognize in man as uremia. Thus we have to deal in uremia not with an intoxication due to a retention of urine or its constituents in the blood, but with a poisoning by a substance whose nature, or, indeed, whose very existence has not been recognized. A clinical proof of this fact is the possi-

bility of the existence of uremia while there is no demonstrable evidence of disease in the kidneys and normal amounts of normal urine are being secreted. While, however, the retention in the blood of substances ordinarily recognized as being excreted in the urine is not the cause of uremia, yet, after uremia has been produced, such retention may in all probability have a certain effect, aggravating the already existing condition or determining its variety. The poison then must be a special one circulating in the blood under conditions which are not governed wholly by the action of the kidneys as it is evidenced in the urine. As to its exact nature, the facts that we have ascertained positively are that its uremia-producing power is rendered abortive, or at least much lessened, by the moderate application of heat and that the active principle is not readily dialyzable."

It may be well to mention here the notable effort of Bouchard to discriminate between the seven poisons, or "urotoxins", which he claimed to have isolated from the urine of uremic patients. He defined them respectively as a diuretic, a narcotic, a sialagogue, a myotic, a temperature-reducing principle, and two convulsants. In general he supported the theory of retained urinary products as the source of uremic symptoms; but his detailed scheme of specific toxic constituents has not borne confirmation.

In the line of research upon the toxicity of urine, one of the most interesting points has been that upon the freezing-points of urine and of blood in uremic conditions. Richter and Roth noted the molecular concentration of the blood attending double nephrectomy, while removal of one kidney did not have this effect. (Compare Bradford's work.) Injury of the remaining kidney, after removal of the first, leads to excessive molecular concentration. Koranyi, also investigating the freezing-point, concluded that the metabolism of the porteids produced the poisons of uremia. Lindemann reported that, in uremia, the freezing-point of blood is much depressed. Koevesi and Roth-Schultz speak of molecular oliguria, with high freezing-point, in advanced nephritis. They lay down the rule that "the determination of the freezing-point of the urine and the quantity of the urine excreted in a day shows whether there is molecular oliguria and a determination of the freezing-point of the blood shows whether the kidneys are removing waste products properly." I note these conclusions for the bearing they have upon some of the evidence presented by others.

In the work of Bradford, to which I have referred, the main contention centres in the claim that the kidney " in some way influences the metabolism of the tissues, so that, if the quantity of kidney substance present is greatly reduced, the proteid tissues and more especially the muscles break down and liberate urea. This view", he says, "is based upon the following experimental facts: (1) When the amount of kidney is reduced to one-quarter of the original total kidney-weight, the quantity of urea excreted in the urine is increased; (2) The amount of urea in the blood is greatly increased at a time when this increased excretion of urea is going on. (3) There is great emaciation, even if the appetite is maintained and the emaciation cannot be arrested by the most abundant diet. (4) If the appetite be completely lost and no food be taken, the amount of urea in the urine may remain at a level as high as that at which it stood when the normal animal was eating freely and maintaining its body-weight." He remarks that such facts would make one turn to the theory of an internal renal secretion, the disturbance of which might lead to the disorder of metabolism, but he interprets the results of some of his experiments as

distinctly against that hypothesis. Further than this he does not attempt to go in explaining just what is the medium for the renal influence upon tissue metabolism. Some of his experiments are upon the effects of partial nephrectomy, in which a part of one kidney and the whole of the other were removed; in others double nephrectomy or ligature of both ureters was performed; and finally he studied the effects of the intravenous injection of urea. Besides this experimental work, the observations upon a series of clinical cases are interpreted.

In the partial nephrectomy cases it was determined that when the total remaining kidney tissue equalled but one-third of the normal 6.7 grams per kilo of body-weight, the dog would live and enjoy good health; the operations were well borne and the recovery was almost invariable. With two-thirds or less of total kidney-weight thus removed, the urea in blood and urine was not materially increased in total amount but the amount of water was not materially increased in total amount but the amount of water used in excretion was vastly augmented. The hydruria was not, however, attended by any of the more pronounced effects accompanying the removal of three-quarters or more of the total kidney-weight. The latter were essentially fatal, and between the two-thirds and the three-quarters limits lay the transition from health to a condition terminating fatally. In no case, he insists, even where only a tenth of total kidney-weight remained intact, was there a failure to excrete urine with abundant quantities of urea. In cases with one-third remaining, the only symptom to be thought of in connection with uremia was a fall in body-temperature and occasionally a diarrhœa; no vomiting, convulsions, coma, nor dyspnœa. Occasionally an increase in urea-excretion was observed. In the fatal cases, with more than three-quarters removed, the urea-content of the blood was greatly increased, even to twenty times the normal amount. Even more striking is the proportion of extractives found in the tissues, especially the muscles, where there is not only a large amount of urea but also a vast increase in those extractives, insoluble in absolute alcohol but soluble in rectified alcohol, belonging to the creatin class. This in the experiments upon double nephrectomy also is a point upon which the author lays great stress, as bearing out his idea that metabolism, especially in the muscles, is affected directly by a disturbance of the kidney's function. In the other experiments, where varying quantities of urea were injected intravenously, there occurred at times equally large amounts of urea in the blood itself, but the amount in the tissues of muscles, liver, and brain were invariably less, while the great increase of the other muscle-extractives was notably absent.

In speaking of complete nephrectomy, the author says that "dogs lived from three to five days. During the first two days there was little to note except lack of appetite. Muscular weakness, beginning on the second day, is progressive. The most marked feature, aside from weakness and wasting, is the decline in bodily temperature. The fall is continuous and progressive. There may be slight drowsiness, but in none of these experiments was there anything approaching coma. Vomiting and dyspnœa were not conspicuous and convulsions were not observed at all."

With ligature of both ureters there was essentially the same picture as that following complete nephrectomy. There is invariably a hydronephrosis induced, a condition peculiar in that it differs from that accompanying calculous obstruction in man, where complete or nearly complete suppression is the rule. The same condition exists here as with double

nephrectomy with regard to the increased proportion of extractives in the muscles, liver, and brain.

The clinical cases reported embrace five of complete suppression, and the duration of life, together with the urea-content of the blood, makes an interesting comparison when taken with the results obtained from the animal experiments. Three were cases of simple calculous suppression which lived 5, 6, and 9 days respectively and gave urea values of 0.277, 0.324, and 0.44 per cent. Another which lived 7 days showed a percentage of 0.36 and post mortem was found to present an endarteritis and thrombosis involving almost or quite the whole kidney cortex. The fifth was one in which the kidney itself presented no lesion, but an inflamed sacculus in the bladder was the apparent cause by purely reflex process. To me this is of striking interest, as suggesting the possibility that even relatively, if not indeed perfectly, healthy kidneys may reflexly become the cause of the most profound toxic effects. Of this possibility, I shall wish to speak at greater length in connection with some of Herter's experiments. Bradford is pleased to speak of these five cases as varying types of "latent uremia", the symptoms of which are essentially those described by Sir William Roberts as following ordinary obstructive suppression in each instance and are strikingly comparable to those presented by nephrectomized dogs. "There were consciousness, myosis, fall of temperature, occasional vomiting, and toward the end slight and rare twitchings of the voluntary muscles, and perhaps slight drowsiness, but no coma, convulsions, nor dyspnœa." The author's comment is, "I think we must conclude that complete suppression, of sudden origin and dependent upon obstruction of the ureters or upon certain acute lesions of the kidney causing entire cessation of the renal activities (such as the cases described above) does not produce acute uremia."

"True acute uremia I have not been able to produce in the laboratory. . . . Acute suppression is rare in chronic Bright's disease and certainly acute and rapidly fatal uremia may occur in this form of the disease whilst the patient is passing quite considerable quantities of urea and urine."

In devoloping his theory of uremia, Bradford asks, "Are the toxic substances involved the products of normal metabolism and toxic only by retention, or is there an abnormal metabolism? I think a consideration of the facts, experimental and clinical, that have been adduced will show that uremia cannot be explained on the hypothesis of the retention of either one or many or all of the urinary constituents, products derived from a normal metabolism. The sudden and complete suppression of the functions of kidneys up to that time healthy produces a train of symptoms similar to those seen in obstructive suppression and, as already insisted on, a group of symptoms resembling only very distantly those of acute uremia. . . . Formerly it was thought that non-obstructive suppression certainly caused uremia. . . . The main conclusion that I hope to have established is that, both in the laboratory and in disease, the suppression of the activity of kidneys up to that time healthy fails to produce acute uremia. . . . The retention theory is, I venture to think, inadequate and it is to me probable that there is an abnormal product of a disordered metabolism. Experimental evidence points to the conclusion that the kidneys in some way control the metabolism of the bodily tissues. The increased production of nitrogenous extractives in the tissues cannot be explained by mere retention."

The work of Herter on the relation of urea to the existence of uremia takes up

the consideration of its relations to physiological excretion as well. His reports, like those of Bradford, enter into minutest detail, as no others I have mentioned have done, of the urea-content of the blood. A considerable discrepancy seems to appear between what these two investigators consider normal to human blood. Herter gives as the limits 0.01 to 0.06 per cent. and says that values usually fall between 0.025 and 0.045 per cent. Bradford gives 0.015 to 0.02 per cent. as the average and Simon's "Clinical Diagnosis" gives approximately this lower value. This discrepancy is of some importance in the consideration of certain cases approaching the abnormal. The conditions under which Herter established his normal average, viz., "healthy young men and patients at Craig Colony", may account in a measure for this discrepancy.

In chronic conditions of the kidney, Herter's report includes many cases in which the urea-content in the blood ranges from three or four to twenty times the normal. Of these cases he says, "It is a striking fact that so large a proportion of cases of chronic nephritis show a distinctly excessive urea-content. Often it has been observed in persons who had had no acute exacerbation of nephritis. Probably in such cases it was a gradual development, appearing long after the first structural change. In such patients, the urea-content probably fluctuates before the stage is reached when the percentage is continuously or uniformly high." Herter's idea is that the accumulated urea may intermittently serve as its own diuretic.

He then proceeds to divide his cases of acute and chronic nephritis according to the urea-content in each, making three classes. In those below 0.1 per cent., there are ten cases observed and these include two which developed symptoms of uremia. In those with urea-content between 0.1 and 0.3 per cent., he finds twenty-four cases and among these were ten undoubted cases of uremia and eight others which had symptoms like those of uremia but had other possible conditions to which these symptoms might be referred. In the class embracing those with urea-content above 0.3 per cent., there were seven cases, of which four were "well-developed and unequivocal forms of uremic intoxication." In no one were marked cerebral symptoms absent.

On the basis of these observations Herter concludes, "There can be no doubt that the observations included in these three groups justify the inference that unequivocal symptoms of uremia are very much more common in those cases of nephritis in which the urea-content of the blood is excessive than in those where it is either normal or only moderately increased. They also point to an important conclusion as regards the probability of a fatal issue. It can be stated that a patient is in grave danger of developing unequivocal symptoms of uremia (convulsions, dyspnœa, vomiting, diarrhœa) whenever the urea-content of the blood increases beyond 0.2 per cent. and that a fatal issue is almost certain to occur within a few weeks in a patient in whom the urea-content of the blood amounts to more than 0.3 per cent.. . . . But although it is a fact that the liability to uremic symptoms increases with the augmentation in the urea-content in the blood, this is far from being proof that the excess of urea is in reality the effective cause of these symptoms. To prove this it would be necessary to show that the blood of our uremic patients contains no other bodies capable of giving rise to the intoxication in question and such a demonstration is not practicable. . . . Different types of uremia exist and we must clearly distinguish between these in any discussion of the role played by pathological accumulations of urea.

The uremia that occurs in the course of acute infectious diseases in persons with previously normal or presumably normal kidneys must not be confounded with those examples of uremic intoxication that develop in the course of a chronic nephritis." Here he believes we see the gradual development of the renal insufficiency for urea, reaching a high grade and inducing uremic symptoms with very little elevation of temperature. Such cases he says "we may safely assume" are due to retained urinary constituents. Of disordered metabolism and its products, our ideas are he thinks "unsupported by substantial evidence". Finally with reference to the effect of urea upon dogs, he concludes in brief that "these considerations render it in the highest degree probable that urea plays a part, and a leading part, in bringing on uremic symptoms in certain patients with chronic nephritis".

In Herter's consideration of the physiological relations of urea, an interesting comparison is drawn between what we may call the elasticity of the kidney's function in the higher animals and in the frog, in which the lower type of development of the organ persists. He concludes that the functional effectiveness of the mammalian kidney is at least twelve times that of the Wolffian body of the frog, weight for weight. In experiments with animals on the effects of urea injected in solutions of varying strength and quantity it was determined that in all forms of kidney it was possible to find a strength of solution and rate of injection above or below which diuresis was not so easily established nor so well maintained. In the normal animal, however, the limits for this action were quite elastic. It was shown that in kidneys previously subjected to the action of cantharidin the nephritis induced led to a peculiar effect upon the limits of renal sufficiency. A strength and rate of injection that in health would have increased excretion actually decreased it or practically caused suppression. If, then, a weaker solution were first injected and more slowly, the kidney could, for a time, be nursed back almost to its normal maximum efficiency. Although the author does not dwell at length upon this point, it seems to me to be of the utmost importance in any attempt to understand the whole picture of the uremic process. This *stammering*, as we may call it (This term is applied by Paget to a reflex disturbance at the bladder neck that may be considered remotely analogous) seems to me to express the state of a kidney in which, under violent reflex or direct irritation, it refuses to function. What happens afterward may be conceived of as a reverberation of progressively increasing ill-effects between the kidney in this state of hesitancy and the tissues, whose disordered metabolism becomes thus alternately cause and effect. I do not say that this leads us to the ultimate cause of uremia, for that, as I have indicated, may be manifold in character; but, granting that the reflex mechanism involved in the renal activity can be so disturbed that for instance the blood-supply can practically be cut off or the secreting epithelium made unable to regenerate by virtue of some form of depression, do we not see that practically any kidney is potentially in a condition to become a medium for the induction of uremia? Does not this conception help to harmonize those cases of uremia which we know as puerperal eclampsia and in which there may be no demonstrable increase in the urea-content of the blood with the more common type as it accompanies the various forms of Bright's disease? It is only necessary to admit, as most investigators seem ready to do, that urea is not at least the only poison which can induce this train of symptoms to have completed a conception more satisfying than most

such theories, taken by themselves, have become in the light of all the facts.

Let me refer again to Herter's experiments more in particular. In the case of dogs injected by the femoral vein with solutions of urea, the maximum secretion and one that could be maintained for hours without apparent injury was with a 4 per cent. solution infused at the rate of 5 c. c. per minute. This would seem to be the maximum normal capacity (about twenty times the normal demands made upon the animal's kidney) for reasonably prolonged periods. That the organ should become exhausted in time under this strain of work is natural to expect and was indeed indicated by the condition reported histologically. There were œdematous and granular appearances in many cells, but an unaltered nucleus indicated the possibility of regeneration. Very different was it when, with the rapid injection of more concentrated solutions, the evidence was that of an actually damaged epithelium, giving such an appearance as to show a loss of structure in the cytoplasm and even a fragmentation of the cells in certain tubules.

Where the avenues of excretion are cut off in dogs, death will ordinarily not supervene until nearly 1. per cent. of the body-weight of urea is infused, whether introduced slowly or rapidly; "where urea is infused so rapidly as to cause death in one to two hours, it makes little difference in the fatal dose whether the kidneys be permitted to act or not" (Herter). Would it here be unwarranted to suppose that, under the toxic effect of the urea, the kidney-cells individually as well as the vascular structures of the organ collectively underwent a spasmodic reaction, in the latter vaso-motor, in the former a trophic disturbance? The relation of the one of these processes to the other it need hardly be necessary to consider for our present purposes. In the application of the general idea which I have suggested, may we not conceive that this spasmodic, revulsive action of the kidney, rarely as a whole in health, more frequently in its relatively healthy portions left functioning after previous disease, follows when, as I have indicated, it is confronted with a direct irritation entering by way of its blood-supply or borne to it reflexly with its vaso-motor or trophic impulses.

Herter calls attention in detail to some fourteen cases of fatal acute lobar pneumonia in which the end presented the symptoms of an acute uremia and an observation of the blood revealed the presence of from five to fifty times the normal amount of urea in circulation. Granting that the urea in these cases was an aggravation of the trouble, it seems reasonable that the beginning of the end was when the kidney suddenly refused to do what the storm of specific poison thrown upon it made reflexly impossible. When we understand this condition, our treatment will aim at exactly what I believe we accomplish by saline infusion in such cases at present, viz., nursing back, or coaxing, the kidney to do what it refuses to be forced to do.

I realize that such a conception has little definite evidence experimentally to support it, but it seems to me to present a portion at least, not previously insisted upon, of any hypothesis that shall formulate, from clinical and experimental observations, a true picture of the condition and process now so indefinitely understood as uremia.

896 Woodward Avenue.

Health In Islands.—It has been frequently observed that the inhabitants of islands and small peninsulas attain longer life than those of continents. The Barbadoes, Greece, Madeira and the Shetlands are quoted as illustrations of the truth of this statement.—(*Medical News.*)

RECURRING TONSILLITIS.*

BY JNO. A. DONOVAN, M. D.,
Butte, Montana.

In selecting this for my subject, I am led by the fact demonstrated by my daily practice that, though for the past two or three years the tonsils have been most carefully studied and discussed by laryngologists, it is evident the general practitioner has given it no attention. I find, with very few exceptions, that unless the tonsil is decidedly hypertrophied it has been considered normal. I shall confine my remarks to what I consider the most practical points, doing so in the briefest manner possible, that more interest may be taken in this class of suffering patients.

We have the faucial, pharyngeal, lingual and eustachian or tubal tonsils. I shall consider only the faucial. They may be tersely described as almond-shaped bodies of lymphoid tissue or conglomeration of Peyer's patches. The depressions number from 10 to 20 and constitute the crypts or lacunae of the tonsils; normal size is about one-half inch long by one-third inch thick. Weight, 2 drachms. They are situated between the anterior and posterior pillars of the fauces. By drawing the anterior pillar forward, outward and slightly downward, the plica triangularis will be seen extending from its edge downward and backward to the tonsil. Above this is a triangular space, the supratonsilar fossa. It extends inward, upward and outward into the soft palate, downward and anteriorly between the tonsil and the plica triangularis, sending a prolongation downward behind the tonsil. Note what an ideal cavity for the retention of culture media, with resulting formation of peritonsillar abscess.

External to the tonsils is a strong fibrous membrane, and outside of this the superior constrictor muscle. The large vessels lie immediately external to this and about 15 to 20 mm. behind the posterior edge.

The location from outside may be given as a point midway between the angle jaw and anterior border of the sterno mastoid muscle and the tip of the hyoid bone.

Arterial supply from facial through its tonsillar and palatine branches, from the lingual and the ascending pharyngeal.

Nerves—Glossa pharyngeal, tri-facial and sympathetic.

Lymphatics—Superficial and deep, passing into upper carotid cervical glands.

A clear idea of these anatomical relations is essential to comprehend the clinical significance of symptoms produced by pathological conditions.

Function—This has been discussed by many authors, with entirely different conclusions. I quote the conclusion of J. Uhlman, *Medical News,* Jan. 26, '01. "The normal tonsil has a physiological function, probably protective to the organism. (2) That being in itself often diseased, the physiological function of the tonsil is impaired, and that instead of being protective, it is the nidus for the growth and distribution of pathogenic organisms and their poisonous products in the system. (3) That many grave and fatal general infections have their origin in the tonsils. (4) That if the exanthemata, particularly scarlatina are of bacterial origin, the tonsil acts in part as a port of entry. (5) That acute articular rheumatism, and the diseases often associated with it, endocarditis and chorea, in the great majority of cases, are due to the action of attenuated bacteria, their toxins, or both, entering the system through the diseased tonsil. (6) That in those rare cases of typhoid fever in which no intestinal lesions can be demonstrated, the similarity of the tonsillar tissue and Peyer's patches suggests the tonsil as the port of entry of Eberth's bacillus. (7) That

* Read before the Silver Bow Medical Society, December 24, 1902.

scrofulosis is often associated with diseased tonsillar tissue, and that the tubercle bacilli often enter the system via the tonsils. (8) That the tonsil is too little examined at autopsy, and much light might be shed on fevers of uncertain origin by its bacteriologic and histologic examination."

Pathological tonsils may be classified as interstitial or sclerotic, resulting from slow or recurring inflammation. The lymphoid—a simple hypertrophy of otherwise normal structure in early life, but assuming other types as age advances. Lacunar or cryptic or honeycomb walls of the lacunae undergo change. A desquamation and accumulation of dead cells may distend the lumen with plugs. These may become horny, fatty, caseous or calcified. It is with this variety we have the repeated sore throat, sharp pains, expulsion of cheesy plugs with the pungent odor of putrefaction, followed by relief till they fill up again.

Any abnormal condition of these lacunae or hypertrophy of tonsil, or adhesion of tonsil with the pillars may form an ideal trap for specks of food, exfoliated epithelium, glandular secretions, etc. These with the germs always present may produce the most serious results.

The most prevalent mistake made is that the tonsil must be enlarged to require attention, while any of the above conditions may produce the most annoying disturbances entirely independent of the size of the tonsil. Pynchon has called attention to the many annoying symptoms caused by what he names the submerged tonsil. The symptoms indicative of diseased tonsils are frequently:—cough, especially on retiring (this may often be produced by putting the probe point into a diseased crypt),uncomfortable deglutition, impaired hearing, smell and taste, subjective sensations in the throat, pains, glandular enlargement, voice changed and easily exhausted, otitis, neuralgias, etc. The small obstructed lacunae are more trouble usually than those with open crypts.

The sequelae, besides the complications following sore throat, tonsillar abscess, etc., with which you are all familiar, are: enlarged and suppurative glands, septic infection, septicæmia, endocarditis (unfortunately, is not extremely rare), pneumonia, typhoid and tuberculosis, undoubtedly from lodgement of specific infective material. Several cases of septic phlebitis have been known to follow. I had one case of pneumonia follow an acute peritonsilar abscess, and with one patient who had retention of pus for some time in an atrophied tonsil, in spite of radical treatment, her cervical glands became enlarged, goitre followed, with more glandular envolvement and death. In these patients I felt positive that the tonsils were the direct cause of infection.

Treatment: As you will most likely first see these patients in the inflammatory or suppurative stage, immediate action is necessary. A few words on differentiation are essential. There may exist a genuine tonsillar abscess; swelling, confined to the tonsil and mouth; it is freely opened with little pain. Abscess in anterior pillar usually results from a tooth or foreign body; swelling anterior to tonsil; mouth may be opened, but painful. Peritonsillar abscess or a supratonsillar phlegmon is the most common; general swelling, extreme pain and mouth opened with extreme difficulty.

In all cases elimination is indicated; for this calomel and phosphate of soda are preferable. Benzoate of soda, salicylates, guaiacol, etc., have their special indications. Local application of 40 per cent. silver nitrate or 50 per cent. guaiacal solution will frequently abort.

When suppuration has taken place, under no conditions should you allow it to remain, as the complications resulting

from confined pus in a gland, so intimately connected with the lymphatics, are too serious to ever be overlooked, besides its liability to rupture in the night, causing suffocation; or it may burrow downward or produce erosion of the large arteries with fatal results. In peritonsillar abscess, the incision should be made in the supratonsillar fossa, at the same time seeing that the mouth of this space is freely open. A special shaped knife is necessary for this. N. R. Pierce, of Chicago, has devised a special knife and dissector to work in this space. I use a sickle-shaped knife and split the tonsil downward. In this condition many still practice opening through th eanterior pillar, or into the soft palate, preferably one-fourth inch above the palatine arch and at right angles to it with a straight knife. By this method of incision the edges will be kept apart. Should this method be found necessary, it should still be followed by free opening in the supratonsillar fossa; results are more satisfactory and recurrence not probable. Myles' tonsil punch will often be found of value for this.

In many cases of recurring tonsillitis, during the intermission they are so contracted as to be difficult to remove; it is therefore, frequently advisable to encourage an acute attack and remove during height of swelling. Thus you remove much more tissue, while the danger of infection is, in my opinion, no greater than by simply opening the tonsil. I have performed tonsillotomy, but in getting pus cut out the superior part of the remaining portion with Myles' punch forceps, allowing pus to freely escape from a very open mouth. This practically eliminates chances for recurrence.

There is still much discussion as to whether the tonsillotomy or tonsillectomy should be done, though the majority adhere to the former (partial removal). J. H. Coulter gives the following reasons for tonsillectomy:

"(1) It gives a cosmetically perfect throat, free from liability to absorb toxines, etc.

"(2) Liberates and gives perfect action to the pillars.

"(3) Removes mechanical obstruction to sound waves.

"(4) Relieves reflex disturbances.

"(5) Leaves perfectly smooth surfaces.

"(6) If pillars are previously hypertrophied they become normal."

In the cryptic variety, each lacuna should be opened and cauterized with electro-cautery preferably, through guaiacol, silver, etc., may be used. In many patients this method of treatment must be followed. It requires many sittings to complete it, as but few are treated at a time. The more I treat in this manner, the more convinced I have become that if the patient would consent, the whole tonsil can be removed with as little pain or less than the treating of a single crypt. The trouble in removing is to cut deep enough to get at the bottom of each crypt in removing it. Sometimes the removal of the upper portion with a punch forceps will suffice, though I have within the past week been obliged to remove the remainder in two patients because the above operation had failed to cure.

The otherwise admirable Matthew's tonsillotome when used alone on these contracted tonsils is useless. A tonsillotome may be used if all adhesions are first divided; the tonsil then drawn well out with a specially devised tonsil forcep, and cut off at its base. There are many ways advocated for their removal. Cautery puncture or dissection with cautery requires repeated sittings. In some I use the snare; when it can be used, the tonsil snare is one of the safest procedures. Some I cut out piecemeal with punch forceps or dissect with curved scissors. In every case all adhesions should be first carefully removed, as cutting the anterior

pillar is very painful and liability to hemorrhage much increased.

By the local application of 10 per cent. cocain combined with injection of Schleich's solution, the operation is not painful. In children, general anæsthesia, ether being preferable, wil permit of cleaning the naso-pharynx at the same time. Of late, under general anæsthesia, using a mouth gag, apply the tonsillotome by a sense of touch only, combined with external pressure; thus am able to operate with much greater rapidity, requiring the minimum time and amount of the anæsthetic. The special plan to be adopted, must be decided after a careful study of history, physical conditions and general considerations in each case. All things being equal, immediate removal of the greater portion if not the entire gland is preferable. In adults, I favor complete removal in most cases.

Butte, Montana.

The Main Traveled Route.—To the Northwest it is the Chicago, Milwaukee & St. Paul Railway. It is the best road, has best train equipment, and best sleeping car and dining car service. It is the route of the United States Government Fast Mail trains and of the famous Pioneer Limited trains. If you go to the Twin Cities of Minnesota or beyond go via "The St. Paul Road" and ride on the best train in the world.

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Per Cent. of Heredity In Oxaluria.—At the Congress of Hydrology, Climatology, and Geology, Dr. Dedet reported that out of 500 patients he had found 112 who, on admittance, during or at the end of their illness, exhibited oxaluria. In 40 per cent. of these cases there was heredity.—(*Medical Bulletin.*)

MEDICAL CONSIDERATIONS.

1. Art is long, time fleeting; therefore, brevity is the cry of our confreres, for "the bird of time hath but a little way to fly, and lo! The bird is on the wing".

2. Success does not always imply wealth, nor does it even imply a lucrative and influential practice.

3. The oath of Hippocrates, so expressive of high medical morality or ethics, is said to be "The most memorable of human documents".

4. Never before in the world's history since Plato gave us his Dialogues of Eryximachus, the son of Acumenus, has medicine occupied such an exalted standing.

5. Are not the daughters of Eve, in some respects, to be likened unto *verbs*—as regular, irregular and defective? And as for that *one* of those who are crying for reforms and assuming to be the "new woman", should that *one* be designated "it" and "its" followers as "it's"? For there is evidence of "neuter gender".

6. Co-education is losing the support of those who have encouraged it and watched its progress. The masculine woman is not marketable nor attractive.

7. The sight of five or six young women, attenuated in form, writing on their "finals" in medicine, is a sad reminder to me of their misguided ambition and of the fact that fools and their friends still flourish.

8. Are not the gifts of the gods, Asepsis, Sanitation and Anesthesia, equaled only by that of *fire,* which the Titan stole from the heavens?

9. When one possessed of such remarkable gifts as was Virchow can fully realize his strength and adaptability for another duty in life's work, then, and only then, is he a safe guide in medicine. It is better, since Medicine is a jealous mistress, to fully relinquish it if other interests are more inviting.

10. Nationalism and Sectarianism in

medicine are growing to be less countenanced by our best thinkers. The solidarity of our profession is becoming a recognized condition and is encouraged by those who love their profession for its own sake.

11. If we, as members of the honorable profession of medicine, were as true to each other in regard to our schedule of fees as are those who are of the clergy and of the profession of law, we would certainly free ourselves from much self-condemnation, and thereby avoid public condemnation. Tradesmen, in regard to schedules of fees, are furnishing us with easily read instructions.

12. The bestowal of specialist certificates by some cheap universities, whose craze for notoriety and shekels is equaled only by their ignorance of the wants of the profession and their disregard for its responsibility, is the greatest injury to which our profession is being subjected. State legislation and state medical boards should denounce this evil with no uncertain words.

13. State, or old established and well endowed universities, should control medical studies and alone grant the degree of Doctor of Medicine. And joint-stock medical concerns, conducting other studies, such as pharmacy, etc., granting cheap *doctorates* in each, should be well ventilated, in fact, denounced. The dear people, the *thinking people,* are respecting such schools equally with commercial colleges, expecting something better for medicine. And are they to blame?

14. The popular delusion which will-o'-the-wisp hunters hold so closely to their hearts—such delusions (the promulgations of crazed and scheming persons) as are called Osteopathy, Spiritualism, Christian Science, Vitapathy, etc.,—should be tolerated, since such things keep from asylums and mad houses those who would otherwise become burdens to the state.

15. No one can be a specialist—that is, a safe one—who has not had several years of experience in active general practice and has chosen his specialty not for its special revenue, but for his thorough love and his especial gifts and preparation for it.

16. If the New York University obtained no names of physicians for its Temple of Fame, it is indeed a sad reflection on the estimation of the worth of men—such as Ephriam McDowell, Marion Sims (whose statue is in Bryant park), Mott, Morton, Rush, Walter Reed, Carroll and Agramonte, and others equally memorable, not forgetful of Jenner, Roentgen, Virchow and Pasteur.

17. That quackery flourishes and is encouraged is due to cheap medical journalism and to those of the profession whose interest in it is purely of a financial character; and an ordinary review of the work of two or three medical journals —each claiming the largest circulation— will prove these statements. It is evident to the ordinary reader that subscribers thereto are looking for "sure cures" and the editors and a few well-paid contributors are directing the "innocents" to "original packages", which are being dished up around the corner by a concern in which their capital is to a great extent invested. That the poor, misguided M. D.'s are easy victims is in evidence, for the drugs made use of for these patients, although they have a place in the works on medicine, have no especial merits named for them. The "Pharmacal I X L Co.," however, has found them —? ? ? ! ! !

18. "I am a part of all that I have met" is a wise saying, equivalent to "A man is known by the company he keeps" and "Evil communications," etc. This being the case, will not a few medical journals (I say a few, but I could name three-fourths of those published as objectionable) which vie with Police Ga-

zettes and Journals in unnecessary "smut" have a tendency to lower one's estimation of the profession, his usefulness and his moral character? Such journals, and those which advertise "sure cures" and other non-ethical preparations, should be ostracized by the American Medical Association, and by the state and the provincial associations. For the readers of such journals are really fakirs and the encouragers of fakirs edit such journals.

19. If those who, as pork packers, brewers, speculators, etc., have rolled up millions of shekels, thereby causing broken hearts, disgraced families and innumerable woes, wish to make atonement and to honor (?) the men who made the wealth, would endow a chair in the State University or endow a college in affiliation with the State University after the manner of those connected with Oxford and with Cambridge Universities, would not the state be better benefitted than if a "John Humphrey Smith, Sr." University were to be established? Or would it not be as well to endow a chair for Medical Legislation and Ethics, for which the "father of the American Medical Association", N. S. Davis, M. D., LL. D., was so many years champion and earnest worker? Considering that doctors are rapidly becoming the peers of Kings and Emperors and Presidents, and that more than twenty are baronets, are not better legislation, higher matriculation requirements in medicine, etc., and *Ethics* the demands of the hour, to make this century more glorious than the past?

Leprosy Not Always Hereditary In Girls.—An exchange says: "Incidentally to the discussion now in progress as to the advisability of lepers marrying, the very interesting fact is brought out that, according to Dr. W. O. Smith, who has for years been the president of the board of health of Hawaii, during the last thirty years less than one per cent. of the girls born of leprous parents showed any taint after birth."

Give Art Its Mystery.

Never let a layman into the knack of it;
Mr. Lay already thinks he has abundant wit.
If you give him quinine, call it by some sound
That his vocal organs cannot twist around.
Or, if it is Epsom you are giving to
A patient, look out that he has not got onto you.
Keep your business silent; if you cure him now,
Make it all a mystery, do not tell him how.
We have seen good doctors keep no doors or blinds
On the store of precious things in their wondrous minds;
They would cast their jewels at the feet of swine,
And their high unselfishness seemed almost divine.
The layman gets a notion, and this is how he blows:
"Doc Brown will give you quinine—I guess it's all he knows—
"Doc Jones charged me a dollar for writin' Iodine;
"Next time I'll go and buy it. He must think I am green.
"Old Doctor Smith will dope you with morphine till you're numb,
"And Doctor Clark just gives you plain mercury, by gum!
"I think that our law-makers should make these doctors know
"There ain't no kind of reason in usin' pizens so.
"It almost makes me shiver. Doc West, so people say,
"Gave nitroglycerine to Sam the night he passed away.
"I was readin' in the paper one day, not long ago,
"And I saw an advertisement of a certain Dr. Blow.
"He never gives a mineral, and don't use mercuree
"Or any kind o' pizen stuff; he is the man for me."

Oh! Yes! There are good doctors
With no doors or blinds
On the store of precious things
In their wondrous minds.
They are casting jewels
To the swine that rend;
They are all forgetful
Of a selfish end.
But if they would sometime
Make the swine more pure,
They should save their jewels
For their connoisseur.

C. E. BOYNTON, M. D.
Los Banos, Cal.

Blindness In France.—In a report to the Ophthalmological Society, Dr. Trousseau states that the number of blind in France reaches 31,966; a proportion of 8 in 10,000. This proposition is considerably in excess of that in Denmark, Switzerland, Austria, and above all, Holland; where it is exactly 4.46 in 10,000.—(*Medical News.*)

DETROIT MEDICAL JOURNAL

A MONTHLY EPITOME OF PRACTICE AND THERAPEUTICS

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A SUGARED PILL.

Ever since competition in the drug business assumed its present keenness, numerous methods have been devised by dealers to secure the patronage of the physician. Sometimes it is gained by a special discount, sometimes by the gift of instruments, sometimes in other ways that walk on the verge of non-ethics. The co-operative plan has been tried with varying success, but now a new idea in this line is offered to the profession. For ingenuity it is commendable, but ethically it falls short of strict requirements.

In brief, the plan is as follows: The company sells to the physician one hundred shares of ten dollars each of six per cent. cumulative preferred capital stock. It may be paid up at once in cash by the purchaser, or at any subsequent time, at his option. If the purchaser wishes to have the company carry his stock for him, he insures his life for $1,000, and assigns the policy, to be written on the endowment plan, to the company, which pays the premium out of the dividend of six per cent. Any balance of the dividend is paid to the stockholder. When the insurance matures, the stockholder, or his estate (in the event of his death) has the option of accepting the entire proceeds of thepolicy or to pay the proceeds as subscription for the stock; in the latter case any amount of the policy, over and above the amount of principal remaining unpaid on the stock, shall go to the stockholder or his estate. Incidentally, the stockholder gives to the managers his proxy irrevocable until he has in some way paid for his stock. The proxy is incorporated in the agreement.

Now for the physician's duty. He agrees that he will in his practice prescribe "as far as he can consistently, and to a reasonable extent, as provided by the by-laws, from the regular formulas" of the company. (The by-laws fix the amount at $2.00 a day, four 50 cent prescriptions, and a verbal agreement is made that the physician shall be compensated pro rata for any increase over this.)

Close track is kept of each physician and each druggist. The original packages of the company's preparations, which are to be prescribed by the stockholders bear only the trade-mark of the company on the outside. With each package there is an unattached label, bearing the name of the contents, with space for the name of the druggist, the physician and the date. When a druggist fills a physician's prescription for an original package he fills in his own name, the name of the prescribing physician and the date, and forwards the slip to the company. For this he receives four cents, and the company is furnished with a check on its business.

The agreement which the prospective stockholder is asked to sign specifies that only pure drugs are to be used in the preparations of the company, and that they shall be accurately prepared in the manner shown by the formulas furnished to physicians; also that every holder of preferred or common stock shall have the right to verify the quality of the prescriptions at any time. (No provision is made for an unfavorable finding in this regard

forming a basis for withdrawal from the contract. The agreement is loosely worded and elastic.)

As a business prospect for the holders of common stock, the plan presents almost unlimited possibilities. The company is to have an elastic charter, running to $5,000,000. At first, $400,000 in preferred stock will be issued to physicians, and if it is found necessary more of the same kind of stock will be issued. A million in common stock will form the first issue in that class. It is well known that proprietaries in large quantities can be bought very cheaply and on favorable terms, so practically all the company would need in money would be the establishment of a line of credit. If enough physicians are secured to make the plan feasible, no traveling men will be needed, nor will the company be at any expense for advertising. The physicians will create a demand for the company's goods, and druggists must stock them. One of the arguments used by the company's representatives is along this very line, these statements being made to show how cheaply the company can operate. An office force and one or two shipping clerks would be about all the company would need to carry on its business.

The doctor is the essential factor in the business. Without his prescriptions, the company would be on the same footing as regards competition and expenses as any other drug house. The doctor is the immediate means of income, and he gets next to nothing for his work. Suppose the average physician to be forty-five years of age; the premium on a twenty-year endowment policy would take practically all his dividends, and he would have to "die to win," so he really loses the chief attractive feature of endowment insurance. His entire income in any form would be sixty dollars a year, as provided in the basis of dividend for the preferred stock. The plan is unethical in the extreme; it makes the prescription of proprietaries a sine qua non; it ties the physician hand and foot to one company, with which he has not an equitable business agreement. And he works for the benefit of the holders of the common stock. Most physicians are used to working for the benefit of others, without much material gain; but in this case it appears that the physician is to take medicine, thinly disguised with sugar, for another. And medicine by proxy is always distasteful to the taker.

THE PERSISTENCE OF THE MIDWIFE.

In the matter of securing legislation along medical lines, the ultimate object of which is the benefit of suffering humanity, the profession might well turn its attention to securing the passage of laws which should do away with the old-fashioned, untrained, ignorant women who from time out of mind have been assisting children into the world, and out of it, sometimes with the mother into the bargain. The horrors of child-bed without any sort of pretense at cleanliness are not unfamiliar to any physician whose practice carries him among the families of the poor—families who call him in to undo or to repair the work of the midwife, and then, because he is too late, return with increased devotion to her at the next confinement, providing that she has left a mother capable of bearing children again. How many cases of puerperal fever, how many children blinded with gonorrhœa, how many helpless mothers permitted to bleed to death, have been the result of the ministrations of ignorant women, will probably never be known.

The profession owes it to its members, and to humanity, to take some steps by which the terribly high mortality which results from the attendanceof the midwife may be lessened. Dr. Thomas Scott Hening, of Winterpock, Va., in a recent number of the *Virginia Medical Semi-*

Monthly, reports a number of particularly sad cases which have come under his observation, in which the life of the child, or the mother, or both, have paid the penalty of mid-wife attendance. The condition of things which he describes in the south is no worse than it is further north, for the mid-wife is like the poor—always with us. Her chief requisites for practice are that she shall be old, and that she shall do her work cheap. Her trade must be plied among the ignorant and the lowly, for no other person will employ her. She is unclean, unlettered, and without shame. She bases her practice on tradition, and her power among her clients is almost unlimited. Every old woman in the neighborhood feels it her duty to assist her and the wonder is that children are born to live at all, with all of them in attendance.

Let this matter be agitated. Where there are laws already, let them be enforced, so that they shall mean something. Make the penalty heavier, where one already exists. Where there are no laws, let the profession bend its energies to securing the pasage of suitable legislation.

ANTI-CONSUMPTION WORK IN PENNSYLVANIA.

Like many others of the states in the Union, Pennsylvania is taking a lively interest in the problem of how best to combat the ravages of consumption. The establishment of the free hospital at White Haven has thoroughly demonstrated the need of further hospital facilities for the care of needy consumptives, since the waiting list at that institution has been nearly double the capacity of the hospital. The medical society of the state reports that about 8,000 deaths from consumption occur annually in Pennsylvania and that there are at all times at least 10,000 people who are suffering from the disease.

The Lackawanna County Medical Society has recently started an agitation for equipment with which the county may make a successful fight against the spread of tuberculosis and if the efforts of the physicians in that portion of the state prove to be successful, the work will undoubtedly spread further. The Lackawanna plan includes the establishment of a municipal laboratory, the registration of tuberculosis by attending physicians, a sanitorium for the treatment of cases, and especially the dissemination of knowledge by means of circulars and addresses to the people. The success of this plan has already been demonstrated in the national metropolis, where the death rate from consumption has fallen nearly 35 per cent. since the introduction of educational measures in the city.

There is little doubt that there is need for instruction to the public in regard to the possibility of spreading the disease through carelessness on the part of the patient or his family. The establishment of a municipal laboratory is to be commended, and the sanitorium, in view of the statistics furnished, is a necessity. With these things, and the co-operation of the medical profession, which appears to be already assured, owing to the interest which Pennsylvania physicians as a body are taking in the matter, the results should be certain.

EDITORIAL NOTES

An interesting explanation for the large number of crimes against women which are annually committed by negroes, particularly in the south, is furnished in a editorial in a recent number of the *Charlotte Medical Journal*. The keynote of the comment is this: "The cause that keeps the white man ever on the

alert, that frightens and terrorizes the white women and little girls, that has made farms vacant and sent the owners to cities, is the periodical uncontrollable sexual madness of individuals born of a race whose biologic animal potentialities can no more be changed by education and environment than can their woolly hair be made straight by careful and constant combing."

The writer then goes on: "These physiologic laws are immutable; they cannot be governed by moralists nor suppressed by ethical culture. The want of training along the lines of anthropology and physiology that exists among the class which believes that social recognition and ethical culture will change certain centers in the brain of the African as well as reduce his physiologic activity, is an humiliating evidence of their ignorance of anthropologic facts." It is pointed out that there is always an increase in crime against property among the negroes in the winter, and the statement is made that crimes against women are most frequent in May and June, and least so in November and December. It is at least an interesting theory, and, from the standpoint of a very large number of southerners, an absolutely tenable one.

Physicians who do even a cursory reading of medical periodicals must have seen an article on "Septicemia and the Curette", which has enjoyed an unprecedented publication in the medical journals of the country for several months past. A recent issue of the *St. Louis Clinique,* which contains the article in question, has a somewhat naive comment to make in its columns. It says:

"A paper in this issue of the *Clinique* on 'Septicemia and the Curette' contains some valuable suggestions, but fails to accurately state what alkaline solution is intended for use in this way. The editor would suggest the employment of a wash made by dissolving eight of Seiler's alkaline and antiseptic tablets in a pint of warm water as a proper "alkaline" solution for the purpose. The author of the paper would probably refer inquirers to some proprietary preparation, the paper probably being designed as a means of advertising something of that character."

Immediately upon reading the foregoing, one asks the question, "What on earth did you want to publish it for? If you knew or suspected that it was written largely for the purpose of advertising some proprietary preparation, why did you give it space?" The editor has evidently been caught napping, as all of us are likely to be sometimes. If he didn't think the article in question was really calculated to interest and instruct his readers, he ought not to have used it at all.

A new departure has been undertaken by the publishers of *The Chicago Clinic and Pure Water Journal,* published in Chicago by Dr. George Thomas Palmer. It consists of a free bureau of information as to the value of American sanitaria and health resorts, with descriptions of mineral springs, if any, climatic advantages and disadvantages, hotel rates and so forth. The journal undertakes to forward to any inquiring physician such data as its management has at hand in regard to the numerous health resorts of the country without charge. The paucity of good and reliable information on these matters, and the large number of resorts which claim special advantages for patients furnish a large field for the workr of the bureau, and we trust that it may be successful.

Oxford recently conferred the honorary degree of Doctor of Science on Dr. Charles S. Minot, professor of histology and embryology in the Harvard Medical School.

New Instruments & Devices

Mention of new instruments and devices in this department is entirely complimentary and articles illustrated are judged on their merits.

We invite manufacturers and physicians to send us matter suitable for publication under this head. A description of the device and an electrotype or half-tone with a base not greater than two and five-eighths inches should be sent.

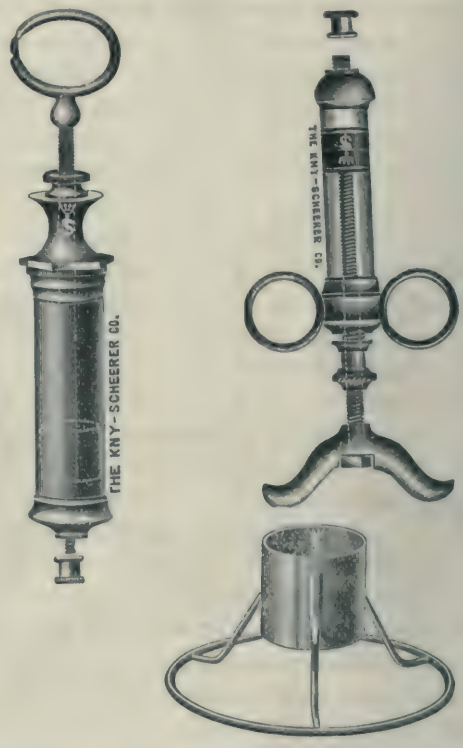
Always mention the price of the article in question.

The management cannot undertake to return cuts unless postage for same accompanies the letter with which they are sent.

PARAFFIN INJECTION SYRINGE.

The value of paraffin injections in plastic operations for restoring and benefitting facial deformities has been recognized by the profession almost ever since Gersuny, of Vienna, first introduced his method of injection. Recent literature is full of comment on the operation and the necessary paraphernalia, and among the late contributions on the subject may be mentioned the following: *Wiener Klinische Wochenschrift,* June 20, 1901; *American Medicine,* December 7, 1901; *Journal of the American Medical Association,* April 19, 1902; *Deutsche Medizin. Wochenschrift,* Dr. Eckstein, August 7, 1902; *St. Paul Medical Journal,* September, 1902; *Medical Review of Reviews,* September 25, 1902; *Medical News,* November 29, 1902. The necessity for absolute aseptic conditions in cosmetic operations is not to be doubted, and the need of keeping the paraffin from solidifying too rapidly must be obvious. Two syringes which have recently been put out meet both these conditions, being carefully constructed with these ends in view. Both are easily rendered aseptic, and with ordinary care the paraffin used in them will not cool so quickly as to render its manipulation by the surgeon difficult of accomplishment.

With the syringes comes a device for holding the bottle full of paraffin, so that the latter may be placed in hot water to

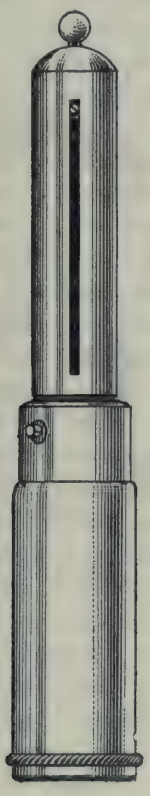


admit of its being softened. The paraffin used is specially prepared for the use to which it is intended to be put. The syringes retail for $5.00 apiece, the bottle-holder for $2.00, and the bottle of paraffin for 50 cents.

ELECTRICAL MEDICAL COIL.

In these days of the increased attention which is being given to massage of all kinds, this is a convenient device for the physician to keep in his office. It is very compact and very handy. A small battery is inserted in one end of the stock, and the pressing down of a small button completes a circuit which generates a mild current of electricity. Pulling out the free end of the stock increases the strength of the current, which may thus be controlled by the operator. A scale on the side of the coil indicates the strength of the current which is being administered. Self-massage is a

simple matter with this device. A sponge roller is provided which can be placed in one end of the coil, and the operator holds the stock in his hand, rolling the sponge over the part which it is desired to massage. The compact design of the device permits it to be carried in a small

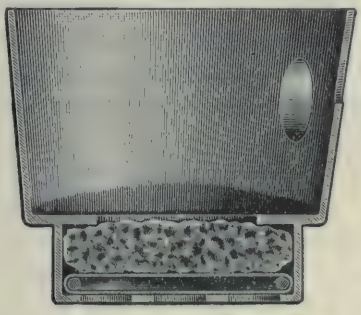


space, and it is not heavy. Extra batteries are supplied by the manufacturer at the price of ten cents each, and it is estimated that in ordinary use the coil will last several months without renewing. The price of the coil outfit, complete with battery, sponge and so forth, is $3.00.

COMBINATION RESPIRATOR.

This device consists of a mouth-piece somewhat similar to those in use with nebulizers, made of soft white rubber and designed to fit closely over the nose and mouth. It is secured by means of a rubber band passing over the ears and around the back of the head, and the wearer breathes easily through a valve opening outward. The front of the device is perforated and the incoming air is filtered through a combination of silk and sponge which effectually removes from it dust, smoke, fumes and

odors. The worker in a chemical laboratory might find it helpful, and the surgeon who is performing a disagreeable operation may readily see a means for making it useful. The material of which it is made ad-



mits of its being rolled up and slipped into the pocket or a corner of the instrument-bag. The manufacturers have had a large experience in manufacturing respirators, and they ask $2.00 for this particular one.

The Ingham County Medical Society held its annual meeting on the 8th inst., at the home of the Vice-President, Dr. H. A. Haze, Lansing. Dr. Reuben Peterson, of the University of Michigan, read a paper on "The Surgical Treatment of Procidentia."

BOOK REVIEWS

A Pocket Text-Book of Dermatology. By Joseph Grindon, M. D., Professor of Clinical Dermatology and Syphilis in the Medical Department of Washington University, St. Louis. In one 12mo volume of 367 pages, with 39 illustrations in black and colors. Lea's Series of Pocket Text-Books. Edited by Bern B. Gallaudet, M. D. Cloth, $2.00, net; Limp Leather, $2.50, net. Lea Bros. & Co., Publishers, Philadelphia and New York.

Dr. Grindon's thorough familiarity with the subject of which he writes, not only in view of modern practice but also in the light of experience from previous teachings , makes him an interesting author. The book is concise, closely and carefully written. Here the student may find definite information on a subject that should be of great interest to him; here also the advanced practitioner and even the specialist may find something of value. The text is carefully classified and arranged with a view to providing much authorative information in as small a space as possible. The division into sections, each disease being treated as a unit, and the fulness with which the important subjects of pathology and treatment are treated strongly recommend the book to the consideration of the profession.

Numerous illustrations, chiefly those of Dr. John F. Keber's cases, illumine the text and afford valuable diagnostic material for the reader.

Dudley's Gynecology. A Treatise on the Principles and Practice of Gynecology. By E. C. Dudley, A. M., M. D., professor of Gynecology in the Northwestern University Medical School, Chicago. New (3d) Edition, Enlarged and Thoroughly Revised. In one very handsome Octavo Volume of 756 Pages, with 474 Engravings, of which 60 are in Colors, and 22 Colored Plates. Cloth, $5.00 Net. Leather, $6.00 Net. Half Morocco, $6.50 Net. Lea Bros. & Co., Philadelphia and New York.

Dudley's book needs no introduction to the profession, among the members of which it already numbers many friends. The book in its third edition bids fair to add a large number to those who already look upon this book as an almost indispensable aid to a knowledge of gynecology. Nearly one hundred pages of text have been added to the second edition, but the rewriting and condensation that has been done by the author admits of the additional text being incorporated in this present addition without adding much to the bulk of the book. The process of revision has brought the book thoroughly into accord with the best and latest modern practice, and a number of new illustrations, showing a number of the minor operative manipulations have been introduced. Tables used in presenting etiology, pathology, physical signs, differential diagnosis, and so on, have been utilized to save space, while they afford an excellent ready reference for the reader. The illustrations are almost uniformly of a high order and the publishers have evidently devoted no little care to this edition of Dudley's Gynecology.

Practical Gynecology, Obstetrics and the Menopause. By A. H. P. Leuf, M. D., Philadelphia. Three Parts, complete in one Volume of 326 pages. Price, Cloth, $2.50. Published by the Medical Council, 4105 Walnut St., Philadelphia, Pa.

Non-essentials do not appear in this book by Leuf. His language is simple, forceful and convincing, and his style

is that of a man accustomed to push truths home to students. He is a very positive writer and he gives the benefit of his own experience to his readers in a manner that can scarcely help being of use to them. Dr. Leup believes that too much is made of the necessity for an expensive instrumental equipment for doing gynecological work, and he sets down the names of the indispensable instruments and their prices in a most encouraging way.

The book as a whole consists of reissues of some series of papers, some editorials and some scattered paragraphs, published from time to time in the pages of the *Medical Council* and now gathered into convenient form for reference and information. The author believes that the average general practitioner is too easily overawed by the claims of the gynecologic specialist, who does so much work in the present day, and one of the objects of the original issue of his writings was to do away with this condition of affairs. Leuf believes that greater familiarity with the conditions leading to and present in diseases of women will have the effect of giving the general practitioner more confidence in himself and his ability to do successfully much of the work now being done by specialists. The book has been strongly endorsed by the members of the profession who have already read it. It is not too expensive, covers the ground well and is written in a clear-cut and vigorous style.

A Pocket Text-Book of Materia Medica, Therapeutics, Prescription Writing, Medical Latin and Medical Pharmacy. By William Schlief, Ph. G., M. D., Instructor in Pharmacy in the University of Pennsylvania. New (2nd) Edition. Revised and Enlarged. In one 12mo Volume of 382 Pages. Lea's Series of Pocket Text-Books. Edited by Bern B. Gallaudet, M. D. Cloth, $1.75, Net. Limp Leather, $2.25, Net. Lea Bros. & Co., 706-710 Sansom Street, Philadelphia, Pa.

This is one of the series of attractive pocket text-books issued by Lea, and within its limits serves admirably the purpose for which it is intended. Its 382 pages contain necessarily only the essentials of the subjects treated, but whatever finds a place in it is practical and useful. Definitions that are terse and easy of comprehension are given for the student, together with a number of handy suggestions in regard to pharmacy, prescription writing and other cognate studies. In the section on Materia Medica paragraphs are written covering the physical properties, physiological action, therapeutics and toxicology of each medicinal agent described and there is an interesting section on practical anæsthesia. Tables of doses, of poisons and antidotes, and of incompatibilities, with a therapeutic index of diseases and remedies and a general index are furnished for the convenience of the reader. The text is concise, well arranged with a view to the needs of the student and the language used is definite and simple.

It should be found useful by students and practitioners alike.

Lea's Series of Medical Epitomes. A Manual of Genito-Urinary and Venereal Diseases for the Use of Students and Practitioners. By Louis E. Schmidt, M. D., of the Chicago Polyclinic. In one handy 12mo volume of 250 pages, with 21 illustrations. Cloth, $1.00, net. Lea Bros. & Co., Publishers, Philadelphia and New York.

This is the first volume of Lea's series of medical epitomes, and its character speaks well for the plan on which the series has been laid out. As we have before noted, the tendency of modern times is towards condensation of literature of all natures. The publishers in their fore-

word refer to the volume as a "compendious treatise" and the name is well applied. In 250 pages, Schmidt has given us a well condensed treatise on the subject of venereal and genito-urinary diseases, giving sufficient detail to each to make it clearly understood, and still rejecting exerything but the essentials. The book is intended primarily as a foundation for a complete knowledge of modern thought and practice on this specialty and its purpose has been well carried out.

A sufficient number of well chosen and well executed illustrations serve to add to the interest of the book and to form useful material for the study of the matter of satisfactory diagnosis.

Obstipation. A Practical Monograph on the Disorders and Diseases of the Rectal Valve. By Thomas Charles Martin, Ph. D., M. D., of Cleveland, Ohio, Fellow of the American Proctologic Society, Professor of Protology in the Cleveland College of Physicians and Surgeons, Proctologist to the Cleveland General Hospital, Etc. Reprinted from the August Number of the Philadelphia Monthly Medical Journal. The Philadelphia Medical Publishing Co., Publishers, Philadelphia, Pa.

This little book of 161 pages is devoted to disproving the statements, made by many practitioners, that the rectal valve exists only in the imagination of a few authors. Dr. Martin not only claims that such valves do exist in the rectum, but he establishes the fact pretty clearly in the course of his monograph. An interesting bibliography of the rectal valve is furnished by Martin, and it extends from the year 1723 to 1896, a number of authors neglecting to make any mention whatever of the existence of the rectal valve.

Martin has made much progress in the matter of treating the valves for the relief of obstipation, and his record of cases is, or should be, convincing. Illustrated description is made of the instruments used in his work, and of the position he has devised for inspection and treatment. The little book closes with a number of cases treated. There are some interesting reproductions from photographs of a number of rectums, filled with paraffin and showing the valves.

Obstetrical Nursing for Nurses and Students. By Henry Enos Tuley, M. D., Louisville, Ky., Professor of Obstetrics, Kentucky University, Medical Department, Etc. Pages, 202. Price, Cloth, $1.00 net. G. P. Engelhard & Company, Chicago, 1902.

A small book, but a helpful one, with due acknowledgement of the invaluable assistance which a well trained nurse may render to the accoucheur. The text is an elaboration of the lectures in obstetrics delivered by the author to the students in the training school for nurses, attached to the John N. Norton memorial infirmary, and the City hospital of Louisville. Dr. Tuley's experiences find a reflection in his work in this book, which cuts matters down to essentials. He believes thoroughly in trained nurses —nurses that shall be thoroughly well trained, and then be permitted to exercise the authority which is theirs by right of knowledge. Any nurse who takes the pains to make a careful and a thoughtful study of the information contained in this book will find herself better fitted to take care of her patient in obstetrics than she was before. A number of illustrations furnish valuable assistance in making the text clear. The book itself is well written, in a close, careful style, and proper emphasis is laid on the most important points in obstetrical nursing.

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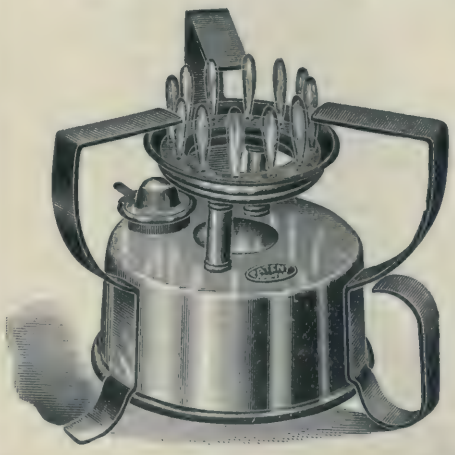

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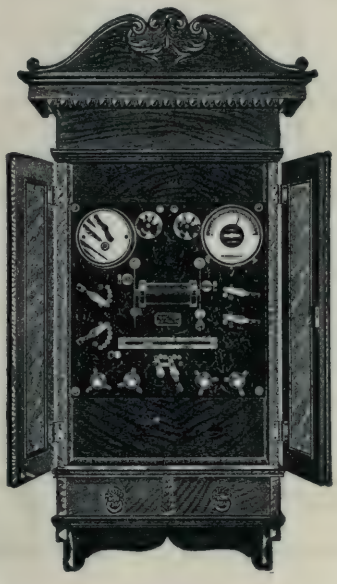

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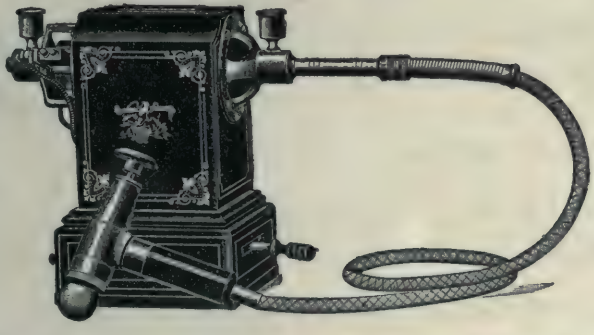

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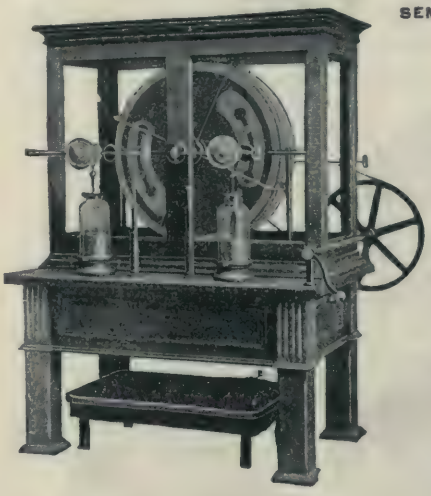

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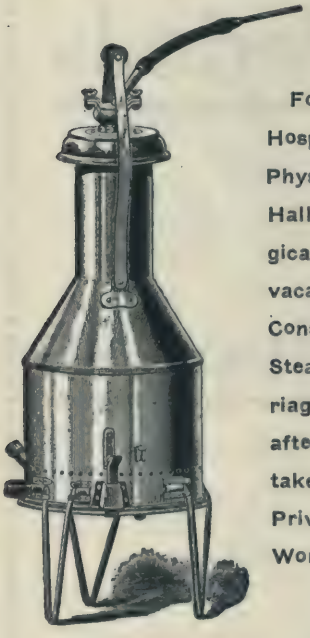

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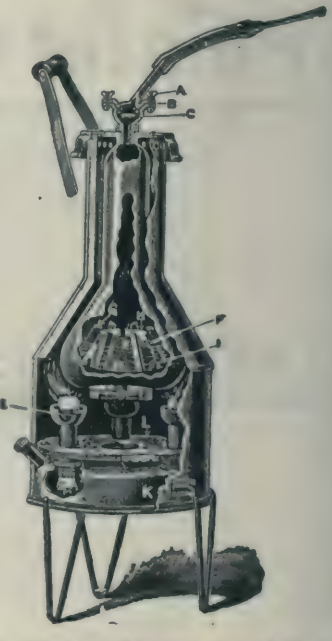

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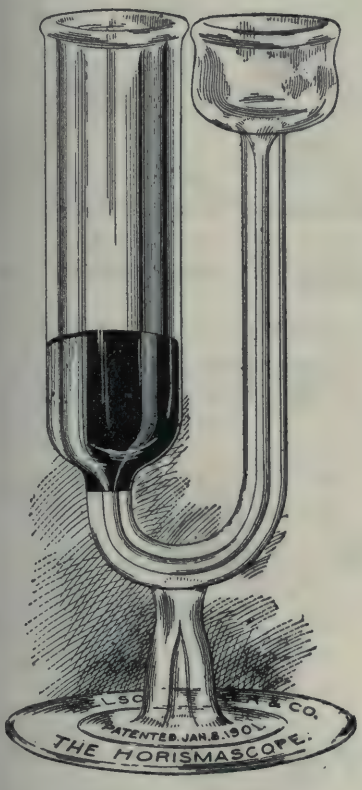

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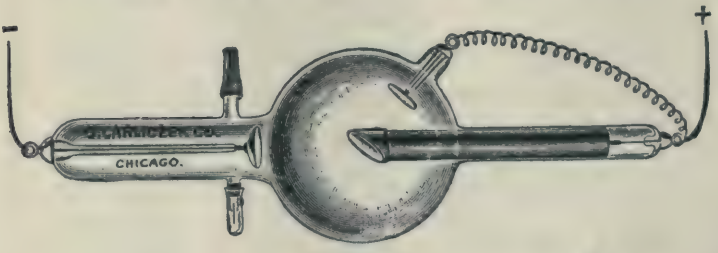

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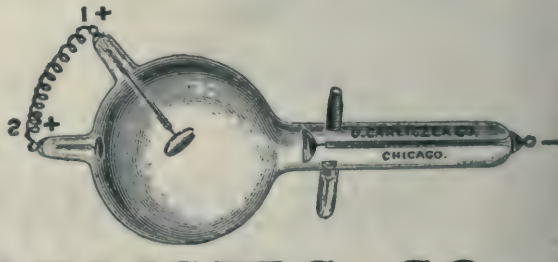

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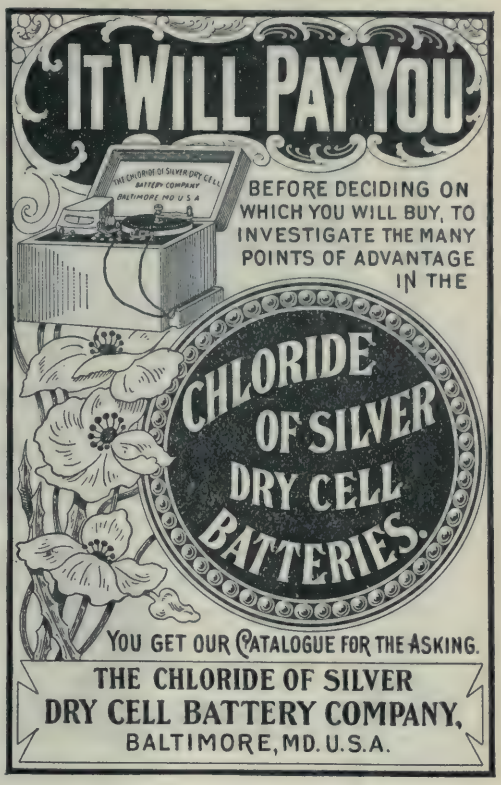
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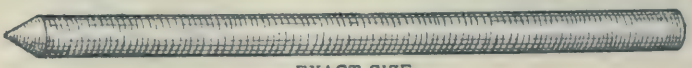

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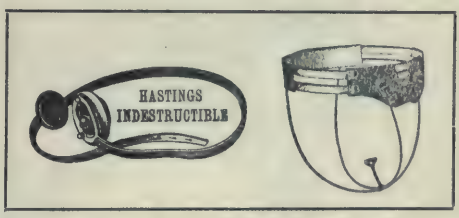

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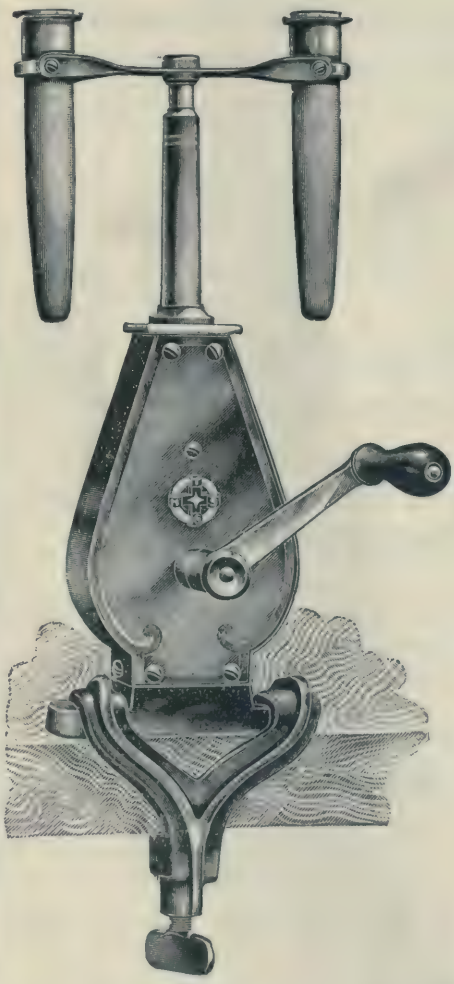

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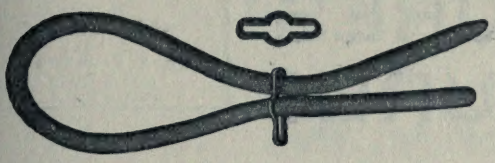

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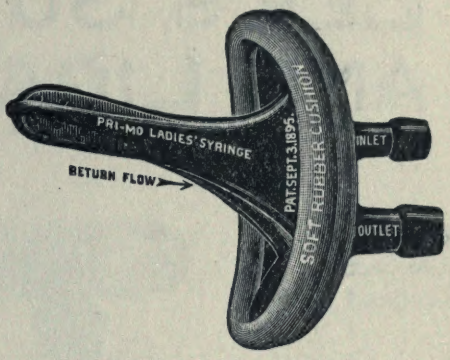

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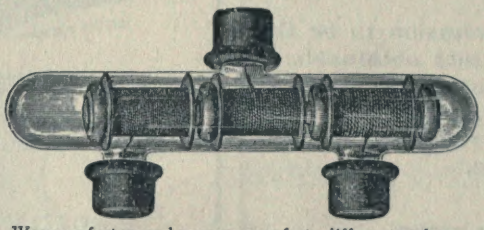

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